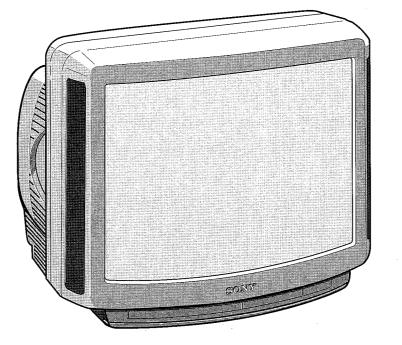
SERVICE MANUAL

AE-2F CHASSIS

/	MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER DES	T. CHASSIS NO.
	KV-X2991A	RM-831	Italian	SCC-G76C-A	KV-X2993E	RM-831 Spa	nish SCC-G78C-A
	KV-X2993B	RM-831	French	SCC-G75C-A			
	KV-X2991D	RM-831	AEP	SCC-G72D-A		.	
				\$ 150 m			







TRINITRON® COLOR TV SONY®

ITEM MODEL	Television system	Stereo system	Channel coverage	Color system
Italian	B/G/H, D/K	GERMAN Stereo	ITALIA VHF:A-H2 (C) UHF:21-69 PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K L, I	GERMAN Stereo	L VHF:F02-F10 UHF:F21-F60 CABLE:B-Q B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	Italian	French	AEP	Spanish
Power Consumption	137W	154Wh	153W	154W

SPECIFICATIONS

Picture tube

Super Trinitron

Approx. 72 cm (29 inches)

(Approx. 68 cm picture measured

diagonally) 110° -deflection

Input/Output Terminals

[REAR]

W 1 21-pin Euro connector

(CENELEC standard)

Inputs for audio and video signals

- inputs for RGB
- outputs of TV video and audio signals
- : 2/q 2 21-pin Euro connector
- inputs for audio and video signals
- inputs for S video
- outputs for audio and video signals (selectable)
- Audio outputs (variable) phono jacks

[FRONT]

- ... 3 Video input-phono jack
- Audio input-phono jacks
- q 3 S video input 4-pin DIN
- 2 Headphone jack : Stereo minijack

Sound output

2x12W RMS

2x30W Music power

Power consumption

Approx. 153W

Dimensions

Approx. 676 x 557 x 528 mm (w/h/d)

Weight

Approx. 48 kg

Supplied accessories

RM-831 Remote Commander (1) RM-860 Scroll Commander (1)

IEC designation R6 batteries (2)

Other features

FASTEXT, TOPTEXT 100 Hz Digital Plus

[RM-831]

Remote control system infrared control

Power requirements

1.5V dc

1 battery IEC designation

R6 (size AA)

Dimentions

Approx. 65 x 225 x 21 mm (w/h/d)

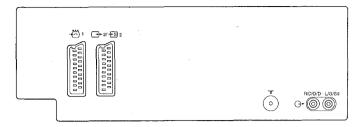
Weight

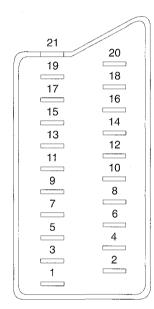
Approx. 157g (Not including Batteries)

Design and specifications are subject to change without notice.

Model name	KV-X2991A	KV-X2993B	KV-X2991D	KV-X2993E
Item				
Pal Comb	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	OFF	OFF
Woofer Box	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF
Dyn. Convergence	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON
Norm I	OFF	ON	OFF	OFF
Norm D/K	ON	ON	ON	ON
Norm AUS	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF
Graphic EQualizer	OFF	OFF	OFF	OFF
Language Preset	Italiano	Francais	Deutsch	None

21 pin connector (W 1:2)





	·~			
Pin No.	1	2	Signal	Signal level
1	®	®	Audio output B (right)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
2	®	®	Audio input B (right)	Standard level : 0.5V rms Input impedance : More than 10kohm*
3	®	®	Audio output A (left)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
4	®	®	Ground (audio)	
5	®	®	Ground (blue)	
6	®	®	Audio intput A (left)	Standard level : 0.5V rms Input impedance : More than 10kohm*
7	®	r	Blue input	0.7 ± 3dB, 75 ohms, positive
8	®	®	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More than 10kohms Input capacitance : Less than 2nF
9	®	®	Grounf (green)	
10	®	®	Open	
11	®	r	Green	Green signal: 0.7 ± 3dB, 75 ohms, positive
12	®	®	Open	
13	®	®	Ground (red)	
14	®	®	Ground(blanking)	
	®	-	Red input	0.7V ± 3dB, 75 ohms, positive
15	-	®	(S signal) croma input	$0.3V \pm 3 dB$, 75 ohms, positive
16	®	r	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75ohms
17	®	®	Ground (video output)	
18	®	®	Ground (video input)	
19	®	®	Video output	1V ± 3dB,75ohms, positive sync:0.3V(-3+10dB)
	®	-	Video input	1V ± 3dB,75ohms, positive sync:0.3V(-3+10dB)
20	-	®	Video input Y (S signal)	1V ± 3dB,75ohms, positive sync:0.3V(-3+10dB)
21	®	®	Common ground (plug, sheild)	

® Connected

r Not Connected (open)

* at 20Hz - 20kHz

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2-8-1. Wire Dressing	
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3-1. Beam Landing	
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*H1 Board	
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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING!!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARKED A ON
THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE
PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE
THESE COMPONENTS WITH SONY PARTS WHOSE PART
NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN
SUPPLIMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

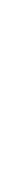
AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE. LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTEMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SÈCURITÈ !!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE À SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

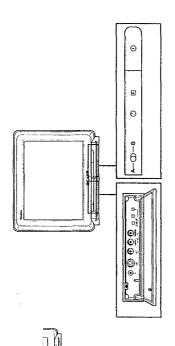
GENERAL

The operating instructions mentioned here are partical abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.



This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to set and on the Remote Commander. For more information, refer to rapes given next to each description.

TV set - front



Symbol	Name	Refer to page
Θ	Main power switch	68
Ð	Standby indicator	39
A-:00-B	Stereo A/B indicators	41
C	Headphones jack	46
€3, €3, €3	Input jacks (S-video/video/audío)	46
D-77-j	Function selector (Programme/volume/input)	39
1-1 1-1 1-1	Adjustment buttons for function selector	39

	Menu operation B B B B B B B B B B B B B B B B B B B		Full-Function side
Remote Commander RM-831			Simple side
Scroll Commander RM-860		Note The SAT button does not operate with this TV.	

Symbol	Name	Refer to Page	Symbol	Name Refe
쌓	Mute on/off button	40	MENU	Menu on / off button
Ð	Standby button	39	7+1/2-	Select buttons
0	TV power on/TV mode selector	39	š	OK (confirming) button
	button		•	Back button
1	Teletext button	40	₩ VOK	Scroll Commander: Roller to select/
Ģ	input mode selector	40		confirm menu functions
Φ	Output mode selector	47		
1,2,3,4,5,6,	Number buttons	39	Video operation	eration
/,o,9, and U			Symbol	Name
/-	Double-digit entering button	39	C C C C C C C C C C C C C C C C C C C	
O	Direct channel entering button	36	MDP	video equipment selector
Δ †	Volume control button	39	*	
PROGR +/-	PROGR +/- Programme selectors	39	⊕ =	Video equipment operation buttons
(E)	Teletext page access buttons	43	PROGR +/-	_
•	Picture adjustment button	41		
ے,	Sound adjustment button	41		
•	On-screen display button	40		
(Teletext hold button	43		
6	Time display button	40		
	Fastext buttons	43		

Refer to Page

48 48

8 8 8 8

Menu operation

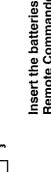
TV/Teletext operation

33

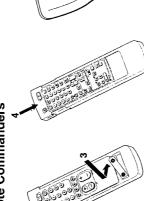
31

Getting Started

Step 1 Preparation







Refit the outside cover making sure that the Full-Function side is visible to use the menu in Step 3.

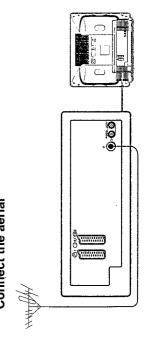
Check the correct polarity.

Remove the cover.

Check the correct polarity.

Step 2 Connection

Connect the aerial



Fit an IEC aerial connector attached to 75-ohm coaxial cable (not supplied) to the T socket at the rear of the TV.

Once you have set up the TV, you can choose the language of

Step 3 Tuning in to TV Stations

the menu. Then you should preset the channels (up to 60 channels) by choosing either the automatic or manual method. The automatic method is easier if you want to preset all receivable channels at once. Use the manual method if you only have a few channels and want to preset channels one by one. The manual method is also convenient for allocating programme numbers to various video input sources.

- Before you begin Check that the Full-Function side of the Remote Commander is
- visible.

 Locate Meturo operation buttons on the Remote Commander.

 They are shaded in the illustration at the left. They are shaded in the illustration at the left.

Easy Menu operation using the Scroll

roller downwards to move the cursor downwards, press the roller to confirm a selection. The other buttons on this commander have the same functions as the respective buttons on the double-sided Flemote Commander. Move the roller upwards to move the cursor upwards, move the In addition to our double-sided Remote Commander, your TV set is supplied with an extra Remote Commander. The "Soroll Commander" works with a roller for convenient, fast-access operation of the menu functions.

Select 3 and press 0

Choose a language

The TV will switch on. If the standby indicator on the TV is lit, press O or a number button on the Remote Commander. Depress () on the TV.

Press the MENU button. The "LANGUAGE" menu appears. (See Fig.

MENU

Select the language you want with \triangle + or ∇ -, and then press OK.

Θ

To go back to main menu: Keap pressing ←.

Display the Menu

Press the ← button. The main menu appears. (See Fig. 2)

To go back to the normal TV picture: Press MENU. Normal TV picture will be restored after one minute if menu functions are not selected.

Now, choose one of the methods described overleaf: "Preset Channels Automatically'

"Preset Channels Manually".

If you choose Demo on the main menu, you can see a sequential demonstration of the menu functions. Press MENU to stop the function.

Note on the Demo

ð **+**⊲ Þ1 • Programme fabir
Wideo Connectio
Procet
Freet
Friture Control
Sound Control
Language
Deno

Select No and press 0X

32

35

Preset channels automatically

Select "Preset" with \triangle + or ∇ - and press OK. The "PRESET" menu appears. (See Fig. 3.)

Select »Auto Programme« with \triangle + or ∇ - and press OK.

The "AUTO PROGRAMME" menu appears. (See Fig. 4.) Press OK.

Select if necessary the TV broadcast system with \triangle + or ∇ - and press OK. (B/G for western European countries, D/K for eastern European countries) The first element of the "PROG" number will be highlighted.

Select the programme (number button) from which you want to start presetting. Select the first element of the double-digit number with \triangle + or ∇ - or the number buttons (e.g. For "04",

Select ML and press DX

PR0G CH 01 C25

Select the second element of the double-digit number with \triangle + or ∇ - or the number buttons (e.g. For "04", select "4" here) The second element of "PROG" will be highlighted. select "0" here) and press OK

PR06 CH

SYS 876

Fig. 5.

When presetting is finished the preset menu reappears. All available channels are now stored on successive number buttons. (Press MENU to restore normal TV picture.) Select "C" or "S" with \triangle + or ∇ – and press OK. The automatic channel presetting starts. (See Fig. 5.) and press OK.

Select CO and press ► Auto Programme Manual Programme Preset Programme Sorting Parental Lock Select "Manual Programme preset" with \triangle + or ∇ - and press OK. Or. He "MANUAL PROGRAMME PRESET" menu appears. (See Fig. 7.)

Select DE 255566555585 ~ coccoccoc

To tune in a channel by frequency:
After selecting F in step 6, enter three digits using the number buttons.
Press OK.

Select CL and press

P-Auto Programme
Manual Programme Preset
Programme Sorting
Parental Lock

Select if necessary the TV broadcast system (B/G for western European countries, D/K for eastern European countries) or a video input source (EXT) with $\Delta +$ or $\nabla -$. Then press OK. The CH position will be highlighted. (See Fig. 8.) Using $\triangle +$ or $\nabla -$, select C (to preset a regular channel), or F (to

2 B/6 C

Keep pressing ▽- to select programme numbers higher than 10.

Using \triangle + or ∇ –, select the programme position (number button)

to which you want to preset a channel, and press OK.

Fig.8.

tune in by frequency), or S (cable channel) and press OK. The first element of the "CH" number will be highlighted. If you have selected EXT in step S, select the video input source with \triangle + or ∇ —. (See Fig. 9.) There are two ways to preset channels. If you know the channel number, go to step "7-Manual",

e E

if you don't know the channel number, go to step "7- Search".

 Select the first element of the "CH" number with △+ / ▽- or the number buttons and press OK.
The second element of the "CH" number will be highlighted.

2 8/5 (1) (off)

2 8/6 C35 (off) Fig. 10. Fig.11,

Select the second element of the number with △+ / ▽- or the number buttons.
The selected number appears. (See Fig. 10.) ۰

ç

Press OK
The 'SEARCH" position is highlighted and the selected channel is now stored. (See Fig. 11.)

Press OK until the cursor appears by the next programme position. Repeat steps 3 to 7 to preset other channels. P

7 Search

If you have made a mistake:
Press + to go back to the previous position.
To go back to main menu:
Keep pressing --.
To go back to the normal
To go back to the Press MENU:
Press MENU:

-a Press OK repeatedly until the colour of the SEARCH position changes.

2 87G CS0 (▲♥)

Flg.13.

Start searching for the channel with \triangle + (up) or ∇ - (down). þ

Press OK if you want to store this channel. If not, press \triangle + or ∇ -The CH position changes colour. (See Fig. 12.)
The CH number starts counting up or downwards. When a channel is found, it stops. (See Fig. 13.)

to continue channel searching.

d Press OK until the cursor appears by the next programme position.

Repeat steps 3 to 7 to preset other channels.

34

-- 8 ---

To stop automatic channel presetting: Press ← on the Remote Commander. With this method, you can preset all receivable channels at once. which programme positions. For details, see "Using the Programme Table" on page 42. presetting the channels are stored on you can check which

You can sort the programme positions to have them appear on screen in the order you like. For details, see "Sorting the Programme Positions" on page 36.

*Programme names are automatically taken from Teletext if available. If not, please refer to page 37 "Captioning a station

Use this method if there are only a flow channels in your area to preset of you want to preset channels one by one. You may also allocate programme numbers to various video input

Preset channels manually

1 Select "Preset« with △+ or ▽− and press OK. The "PRESET« menu appears. (See Fig. 6.)

Press == to go back to the previous position.
To go back to main menu: f you have made a nistake: Keep pressing ←.

To go back to the normal TV picture: Press MENU. sources.

Flg. 6.

37

Additional Presetting Functions

This section shows you additional presetting functions such as sorting or skipping programme positions, captioning a station name, manual fine-tuning, and using the parental lock.

Before you begin

- Check that the Full Function side of the Remote Commander is visible Locate the Menu operation buttons.

Sorting Programme Positions

PROGRAMME SORTING

With this function, you can sort the programme positions to a preferable order.

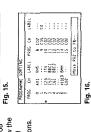
- Press MENU to display the main menu.
- Select "Preset" with \triangle + or \heartsuit and press OK. The "PRESET" menu appears.
- Select "Programme Sorting" with \triangle + or ∇ and press OK. The "PROGRAMME SORTING" menu appears. (See Fig. 14.)

556666666

Move PR8 to PA

- Using \triangle + or ∇ -, select the programme position you want to
- Using \triangle + or ∇ -, select the programme position to which you want to move the selected programme and press OK. Now the two programme positions have been sorted. (See Fig. 16.) move to another programme position and press OK.
 The colour of the selected position changes. (See Fig. 15.)

Repeat steps 4 and 5 to exchange other programme positions.



(i)

if you have made a mistake:
Press + to go back to the previous position.

To go back to main Keep pressing ...

Tuning in a Channel Temporarily You can tune in a channel temporarily, even when it has not been preset. Use the buttons on the Full-Function side of the Remote Commander.

Press C on the Remote Commander. For cable channels, press C twice. The indication "C" ("S" for cable channels) appears on the screen.

For higher programme positions:
The display scrolls automatically.

Enter the double-digit channel number using the number luturs (e.g. for channel 4, first press 0, then 4). The channel appears. However, the channel will not be stored.

If you have made a missage to be press ≠ to go back to the previous position.

To go back to main menu.

To go back to main menu.

To go back to the momal TV picture: Press MEVU.

MANUAL PROGRAMME PRESET

Skipping Programme Positions

You can skip unused programme positions when selecting programmes with the PROGR 4/- buttons. However, the skipped programmes may still be called up when you use the

- Press MENU to display the main menu.
- Select "Preset" with \triangle + or ∇ and press OK. The "PRESET" menu appears.
- Select »Manual Programme Preset« with \triangle + or ∇ and press OK. The »MANUAL PROGRAMME PRESET« menu appears. (See Fig.17.)
- Using $\triangle +$ or $\nabla -$, select the programme position which you want to skip and press OK.
 The "SYSTEM" position changes colour.
 - Press \triangle + or ∇ until --- appears in the SYSTEM position. (See Fig. 18.)
- When you select programmes using the PROGR +/- buttons, the programme position will be skipped. Press OK. (See Fig. 19.)
 - Repeat steps 4 to 6 to skip other programme positions.

Captioning a Station Name

MANUAL PROGRAMME

Programme names are automatically taken from Teletext if available. However you can also "name" a channel or an input video source using up to five characters (letters or numbers) to be displayed on the IY screen (e.g. BBCT). Using this function, you can easily identify which channel or video source you are watching

- Press MENU to display the main menu.
- Select "Preset" with \triangle + or ∇ and press OK. The "PRESET" menu appears.
- Select »Manual Programme Preset« with \triangle + or ∇ and press OK. The »MANUAL PROGRAMME PRESET« menu appears. (See Fig. 20.)
 - Using \triangle + or ∇ -, select the programme position you want to caption and press OK repeatedly until the first element of the LABEL position is highlighted.

To go back to the normal TV picture: Press MENU.

- element will be highlighted. Select other characters in the same way. If you want to leave ar element blank, select and press OK. (See Fig. 21.) Select a letter or number with △+ or ▽- and press OK.The nex
- After selecting all the characters, press OK repeatedly until the cursor appears by the next programme position (at the left margin). Now the caption you chose is stored. (See Fig. 22.)
 - Repeat steps 5 and 6 to caption names for other channels.









<u>မ</u>





2

perafine Instructions

MANUAL PROGRAMME Manual Fine-Tuning PRESET Services Normally the AFTautomatic fine-tunin

Normally, the AFT(automatic fine-tuning) is already operating. However, if the picture is distorted, you can use the manual fine tuning function to obtain better picture reception.

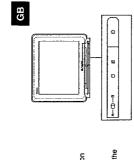
- Press MENU to display the main menu.
- Select "Preset" with \triangle + or ∇ and press OK. The "PRESET" menu appears.
- Select »Manual Programme Preset« with △+ or ▽- and press
 - The "MANUAL PROGRAMME PRESET" menu appears. (See Fig. 23.)
- Using \triangle + or ∇ , select the programme position corresponding to the channel which you want to manually fine-tune, and press OK repeatedly until the AFT position changes colour.
 - Fine-tune the channel with \triangle + or ∇ so that you get the best TV reception. As you press the cursor buttons, the frequency changes from –15 to +15. (See Fig. 24.)

To reactivate AFT (automatic fine tuning): Repeat from the beginning and select "ON" in step 5.

After fine tuning, press OK.
The cursor appears beside the next programme position (at the left margin). (See Fig. 25.) Now the fine-tuned level is stored. Repeat steps 4 to 6 to fine-tune other channels.

| CORAMNE PRESET | CORAMNE | CORAMNE

This section explains the basic functions you use while watching TV. Most of the operations can be done using the simple side of the Remote Commander.



Switching the TV on and off

Switching on

Depress Oon the TV.

Switching off temporarily

Press © on the Remote Commander. The TV enters standby mode and the standby indicator on the front of the TV lights up.

Press \bigcirc , PROGR +/-, or one of the number buttons on the Remote Commander. To switch on again

Switching off completely Depress @ on the TV.

Selecting TV Programmes

Press PROGR +/- or press number buttons.

Press -/- -, then the numbers. For example, if you want to choose 23, press -/- -, 2, and To select a double-digit number

Adjusting the Volume

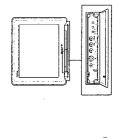
Press 4/-.

and if the standby indicator on the TV is lit, the TV is in standby mode. Press ○ or one of the number buttons to switch it on.

Operating the TV Using the Buttons on the TV

With the buttons on the TV, you can select programmes, adjust the volume, and select video input sources.

- Press P—4— Φ button repeatedly until the programme number, A (for volume), or Φ) (for video input picture) appears. Then adjust with the -/+ buttons.
- Press -/+ buttons to switch on the TV from the standby Press -/+ simultaneously to reset picture and sound



controls to the factory preset level (RESET symbol →• ← is displayed).

39

Watching the TV

Select NT and press Ok

Fig. 23.

(+

2 1 C40(off)

Flg. 24.

D \oplus \bigcirc

Select No and press lik

2006 CII LABEL 2006 CII LABEL 2006 CII 3 C26 C4 4 C34 ITV 5 C36 C

Select »Parental Lock« with △+ or √- and press OK. The »PARENTAL LOCK« menu appears. (See Fig. 26.)

Select "Preset" with \triangle + or ∇ - and press OK. The "PRESET" menu appears.

Press MENU to display the main menu.

Flg. 26.

If no picture appears when you depress © on the TV

PROCEH LABEL PROG UN LABEL, 0 ANT WY, 1 C22 BRG2 2 G32 BRT1 P 3 G26 C4

Flg. 27.

Using \triangle + or ∇ -, select the programme position you want to block and press $\bigcirc K$. The $\triangle H$ and LABEL, of the selected programme number, change colour indicating that this programme is now blocked.

Repeat step 4 to block other programme positions. (See Fig. 27.)

On the "PARENTAL LOCK« menu, select the programme position you want to unblock with \triangle + or ∇ -.

Cancelling blocking

If you try to select a programme that has been blocked:
The message "LOCKED" appears on the blank TV screen.

Press OK. The CH and LABEL change to normal colour indicating that the blocking has been cancelled.

38

You can prevent undesirable broadcasts from appearing on the screen. We suggest you use this function to prevent children from watching programmes which you consider unsuitable.

Parental Lock

PARENTAL LOCK

For details of the teletext operation, refer to page 43.

For details of the video input picture, refer to page 47.





To make the Programme Table disappear Press MENU.

Watching Teletext or Video Input

Watching teletext

- Press ® to view the teletext.

 Press three number buttons to select a page.

 Press one of the coloured buttons for fastext operation.

 Press ® (PAGE +) or ® (PAGE -) for the next or preceeding
 - page. To go back to the normal TV picture, press ○.

Watching a video input picture

Press - repeatedly until the desired video input appears. To go back to the normal TV picture, press ○.

More Convenient Functions

Use the Full-Function side of the Remote Commander.

Displaying the on screen indications
Press © once to display all the indications. They will disappear alter some seconds.
Press © twice to have the programme number and label stay on screen. Press twice again to make indications disappear.

Muting the sound.

Press &. To resume normal sound, press ≪ again.

This function is available only when teletext is Displaying the time

Press ©. This function is available only when teletex broadcast.
To make the time display disappear, press © again.

Displaying of the Programme Table

Press OK. A Programme Table will be displayed on the right side of the TV screen (See, Fig.28)

Press PROGR +/- or select the desired programme position using \triangle + or ∇ - and press OK. Selecting of TV programmes

the previous position. To go back to the main menu: Press ← to go back to

you have made a

Keep pressing ←.
To go back to the normal TV picture: Press MENU.

Note: HUE is only available for NTSC colour system.

Fig.28.

Note on LINE OUT:
The audio level and the dual sound mode output from the GP jack on the HEADPHONES.
VOLUME and DUAL SOUND settings.

Press (for picture) or) (for sound) on the Remote Commander. headphones (1).

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste. In addition, you can change the aspect ratio of the TV display for wide screen effect. You can also select dual sound (bilingual) programmes when available or adjust the sound for listening with the

Adjusting the Picture and Sound

PICTURE CONTROL SOUND CONTROL

Adjusting and Setting the TV Using

the Menu

Control«, then press OK.
The "PICTURE CONTROL« or "SOUND CONTROL« menu appears. (See Fig. 29 or Fig. 30) Press MENU and select »Picture Control» or »Sound

GB

SOUND CONTRO Fig. 29.

(off) (on) (A)

Select MC and press 0K

(4:3)

Using \triangle + or ∇ -, select the item you want to adjust and press Adjust the setting with \triangle + or ∇ – and press OK. The cursor appears beside the next item (at the left margin). OK.The selected item changes colour. (See Fig. 31)

(See Fig. 32)
For the effect of each control, see the table below. Repeat steps 2 and 3 to adjust other items.

Select OL and press Flg. 30.

Brightness Colour Fig. 32. Brightness

Effect of each control

PICTURE CONTROL	Effect
Contrast	Less More
Brightness	Darker ——I—— Brighter
. Colour	Less ——i—— More
Hue	Greenish
Sharpness	Softer ———— Sharper
Reset	Resets picture to the factory preset levels.
Format	4:3: Normal 16:9: Wide screen effect

SOUND CONTROL	Effect
Volume	Less —— More
Treble	Less —I— More
Bass	Less —I— More
Balance	More left —!— More right
Reset	Resets sound to the factory preset levels.
Loudness	off: Normal on: When listening to low volume sound.
Space	off: Normal on: Obtain acoustic sound effect.
Dual Sound	A : left channel B : right channel stereo mono The selected mode of the A-O-B indicator on the TV lights up, fron NICAM proadcasts see max hane)
Headphones:	
O Volume	Less — — More
O Dual Sound	A : left channel B : right channel STEREO MONO

When watching a video Input source with stereo sound: You can select DUAL SOUND to change the sound.

40

41

--- 11 **-**--

PROGRAMME TABLE

To go back to the normal TV picture: Press MENU.

Using the Programme Table

On this table, you can see which channel is preset to which programme position. You can also select programmes using this table.

From the main menu, select "Programme Table" with \triangle + or The "PROGRAMME TABLE" menu appears. (See Fig. 33) To scroll to higher programme numbers, press ▽-.

To select a programme using this menu select the programme number with $\triangle +$ or $\nabla -$ and press OK. The selected programme appears.



Using the Sleep Timer

You can select a time period after which the TV automatically switches into standby mode. From the main menu, select "Timer" with $\triangle +$ or $\nabla -$ and

press OK. The "TIMER" menu appears. (See Fig. 34.)

The time period option changes colour. Press OK.

The time period (in minutes) changes as follows: 10→20→30→40→50→60→70→80→90 Select the time period with $\triangle +$ or $\nabla -$.

After selecting the time period, press OK.
The cursor moves back to the left margin and the timer starts counting.

One minute before the TV switches into standby mode, a message is displayed on the screen. -FPO-

TV stations broadcast an information service called Teletext via the TV channels. Teletext service allows you to receive various information pages such as weather reports or news at any time you want. For advanced teletext operation, use the buttons on the Full-Function side of the Remote Commander.

Direct Access Functions

Switching Teletext on and off

Select the TV channel which carries the teletext broadcast you want to watch.

Press (a) to switch on teletext.
A teletext apge will be displayed (usually the index page).If there is no teletext broadcast, *No text available* is displayed on the informa-tion line at the top of the screen.

To switch teletext off Press ().

Selecting a teletext page With direct page selection

Use the number buttons to input the three digits of the chosen page number. If you have made a mistake, type in any three digits. Then reenter the correct page number. With page-catching

Press OK. Using \triangle + or ∇ -, select the desired page. "Page Catching" will be displayed on the information line. Press OK. The requested page will appear in a few seconds. Select a teletext page with a page overview (e.g. index page)

Teletext errors may occur if the broadcasting signals are weak.

With the simple side of the Remote Com-

You can switch teletext You can switch teletext on and off, operate Fastext, and directly select page numbers.

Press (2) to resume normal teletext reception. Accessing next or preceding page The next or preceding page appears. Press (PAGE +) or (I) (PAGE -).

Superimposing the teletext display on the TV programme

Press (3) once in teletext mode or twice in TV mode. Press (again to resume normal teletext reception.

Preventing a teletext page from being updated

Press ((HOLD). The HOLD symbol "(is displayed on the

Using Fastext

Press (3) to resume normal teletext reception.

With Fastext you can access pages with one key stroke.When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yallow and blue buttons on the Remote

Note:
Fastext operation is only possible, if the TV station broadcasts Fastext signals.

Press the corresponding coloured button on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed after some seconds.

43

TIMER To switch off the

To check the remaining time: Press ⊕. timer: Select "OFF" in step 3.

Select (SQ and press OK

200 255 4 200 255 4 200 120 3 128 321 2 400 238 2

To cancel the request: Select "Subpage" and press OK.\.

This TV is provided with a menu-guided teletext system. When teletext is switched on, you can use the menu buttons to operate the teletext menu. Select the teletext menu functions in the

Using the Teletext Menu

Press MENU. The menu will be superimposed on the teletext display. (See Fig. 35)

Using \triangle + or ∇ -, select the teletext function you want and press OK. (See Fig. 36)

• User Pages Top Section (14) Section (14)

Fig. 35.

You can preset one bank to 2 different programme positions.

If two broadcasting stations use the same Teletext:

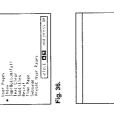
See page 19 for information about presetting and operating the user pages.

USER PAGES/PRESET USER PAGES

The index will give you an overview of the contents of the

teletext and the page numbers. TOP/BOTTOM/FULL







After having selected the function, you can watch a TV programme while waiting for a requested teletext page to be captured (The symbol changes colour) (see Fig. 38).

Press (a) to view the requested page

SUBTITLES





Fig. 39.

Using \triangle + or ∇ -, select ON to reveal the information or OFF to

conceal it again.

Sometimes pages contain concealed information, such as

REVEAL displayed.

Note on Subtities:
If the subtities are not
broadcast on page
888, please select the
subtitle page using
the number buttons.

Press (3) to resume normal teletext reception.

Your teletext service will inform you, if a time coded page is available. You may have a page (e.g. an alarm page) displayed at a certain time.

- Press OK, using △+ or ▽−, select ON and press OK.
- To select the desired page, enter the three digits of the page number using the number buttons.

SUBPAGE

User Page Bank System

Storing pages

Press (if Teletext is not on already) and MENU to show the TELETEXT MENU display.

Select ME and press 0K

Fig.40.

Allocate Bank PROGLABEL B PROSLABEL B MYY 0 00 WYS - 04 MYY 0 01 BBC1 & 05 SXY 8 02 BBC2 C 06 ITV C

- Input the three digits of your first preferred page with the
- Repeat step 4 for the other 5 page numbers you want to preset. If you do not want to preset all 6 page numbers available, press OK without inserting any number. After having finished the presetting press OK repeatedly until the cursor appears besides the next bank at the left margin.
- Select the programme position for which you have preset pages with \triangle + or ∇ and press OK. (See Fig. 40)
- Select the desired bank with \triangle + or ∇ (Banks A to E are available) and press OK.
 - Repeat steps 3 to 8 for the other 4 banks available.

To select the desired page press the respective coloured button while you are in TV mode. Now the Page number of this letterst page will appear in white at the top in the left-handed corner of the TV screen. When the page number changes colour, the page is available. Press the coloured button again to disjolay the page.

To select the desired time, enter four digits for the desired time (e.g. 1800) using the number burdons. Press MENU, The selected time is displayed at the top in the left-handed corner. Aft the requested time, the page will be displayed.

You may want to select a particular teletext page from several subpages which are rotated automatically. After having selected the function, an information line will be displayed. To select the desired subpage, enter four digits using PROGR+/- or the number buttons. (e.g. enter 0002 for the second page of a sequence).

You can store up to 30 pages in the "Teletext page bank system". In this way you have quick access to the pages you watch frequently

There are 5 "banks" (A to E) for 5 teletext stations. In each bank you can store 6 preferred pages (P1 to P6).

- Setect "PRESET USER PAGES" with △+ or ▽- and press
- Select the desired bank with \triangle + or ∇ and press OK. The cursor will go to the first position (P1) of the preferred pages.
- number buttons and press OK. The cursor will go to the second position.
- Select "Allocate Bank« with △+ or ▽- and press OK.

Displaying User Pages Select MENU.

Select "User Pages" with \triangle + or ∇ - and press OK. A table of the stored preferred pages will be displayed. (See Fig. 41)

Select MM and press OK

PAGE 300 PAGE 200 PAGE 203 PAGE 204 PAGE 234 PAGE 234

to have quick access to the first four User pages. Page 1 corresponds to the red button, P 2 to the green one, P 3 to the yellow one and P 4 to the blue button. You can use the coloured buttons on the Remote Commander Select the desired page with $\triangle+$ or $\overline{\bigtriangledown}-$ and press OK. The page will be displayed after some seconds.

4

Press △+ for »Top« to enlarge the upper half. For »Bottom«

keep pressing ∇-, to enlarge the lower half. Press OK for »Full« to resume the normal size.

Press (to resume normal teletext reception.

TEXT CLEAR

Note:
Some of the features
may not be available
depending on the
Teletext service.

Connecting and Operating Optional Equipment

Selecting input and output

This section explains how to view the video input picture (of the video source connected to your TV), and how to select the output signal using direct access buttons or the menu system.

Selecting input

Q

The symbol of the selected input source will appear. Press - Trepeatedly to-select the input source.

To go back to the normal TV picture Press ().

Innut modes

You can preset video input sources to the programme positions so that you can select them with PROGR +/- or number buttons. For details, see "Preset channels manually" on page 34.

ies	Input signal	Audio/video input through the - 7 1 connector	RGB input through the 🖰 1 connector	Audio/video input through the ⊕·2/-€32 connector	S video input through the ⊕·2/-®2 connector	Audio/video input through - 3 and - 3 on the front	S video input through the - 33 connectors on the front (4-pin connector)	
mpur mones	Symbol	+ Գ	Ģ	о Ф	ල ඉ	မှ မှ	၉ (ရှ	

You can also select the input mode using the P-d+⊖ and +/+ buttons on the TV. In this case, first select ⊕, and then press -/+ buttons to select the input.

The ⊕2/-®2 connector outputs the source input from the Selecting the output other connectors.

Ð

Output modes

Press (properties to select the output. The symbol of the selected output source appears.

⊕2/-€32 connector outputs	The audio/video signal from the - T connector	The audio/video signal from the ⊕2/-⊛2 connector	The audio/S video signal from the ⊕2/-® connector	The audio/video signal from the ←3, ←)3 connectors	The audio/S video signal from the →❸3, →○3 connectors	The audio/video signal from the T aerial terminal
Symbol	ф -	ф «	2 @	ტ ლ	စ ်	Δ

Checking and selecting the input and output sources using the menu

You can display the menu to see which input sources are selected for the TV screen, and which output source is selected. You can also select them on the menu display.

Select »Video Connection« with \triangle + or $\overline{\bigtriangledown}$ – and press OK. The »VIDEO CONNECTION« menu appears. (See Fig. 42) You can see which source is selected for the TV and for the output. If you want to select the input and output on this menu, go on to the next step.

Select DIG and press

YC4 CAH Flg. 42.

- Select TV Screen (input source for the TV screen) or output (output source) with \triangle + or ∇ and press OK. One of the source items changes colour. (See Fig. 43)
 - Select the desired source with $\triangle+$ or $\nabla-$. (See Fig. 44) For details about each source, see the table on page 47.
- Repeat steps 2 to 4 to select the source for other inputs or outputs. The selected source is confirmed, and the cursor appears. (See Fig. 45)

Remote Control of Other Sony Equipment

Select 🔼 and press Ok

VIDEO CONNECTION

Flg. 44.

AVZ VHS 2

Fig. 43.

You can use the TV Remote Commander to control most Sony remote-controlled video equipment such as: Beta, 8mm or VHS VTRs or video disc players.

Set the VTR 1/2/3 MDP selector according to the equipment you want to control: Tuning the Remote Commander to the equipment

VTR 1: Beta or ED Beta VTR

VTR 2: 8mm VTR VTR 3: VHS VTR

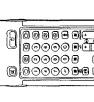
MDP: Video disc player

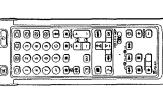
Use the buttons indicated in the illustration to operate the additional equipment.

If your video equipment is furnished with a COMMAND MODE selector; set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander. If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.



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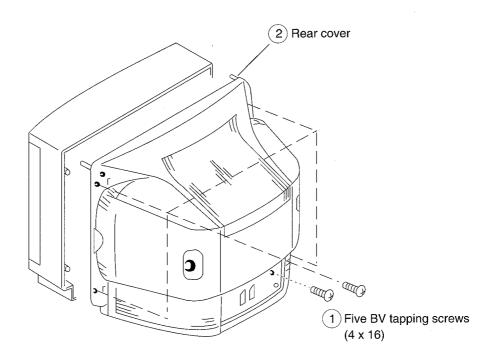
When recording
When you use the •
(record) button, make
sure to press this button
and the one to the right
of it simultaneously.

48

47

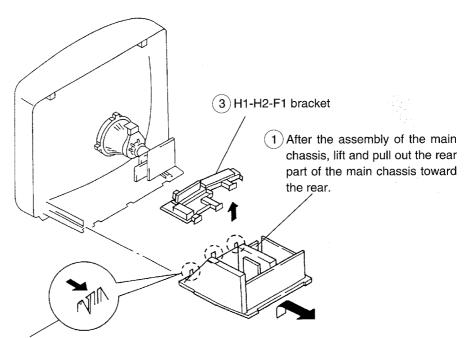
SECTION 2 DISASSEMBLY

2-1. REAR COVER REMOVAL



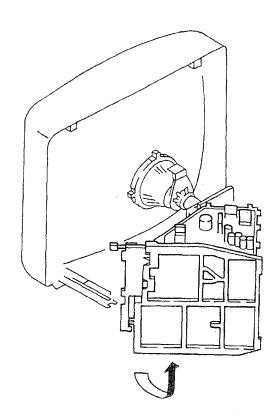
2-2. CHASSIS ASSY REMOVAL

* Remove the connector braket and then perform the following servicing. (refer to 2-3. CHASSIS ASSY REMOVAL.)

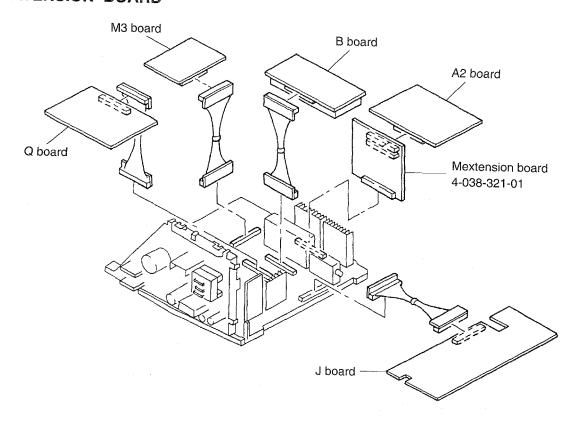


2 Push the three claws of the main chassis in the direction of the arrow and remove the H1-H2-F bracket upwards.

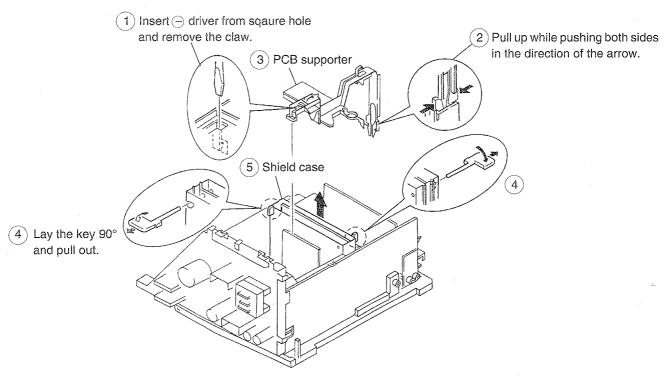
2-3. SERVICE POSITION



2-4. EXTENSION BOARD

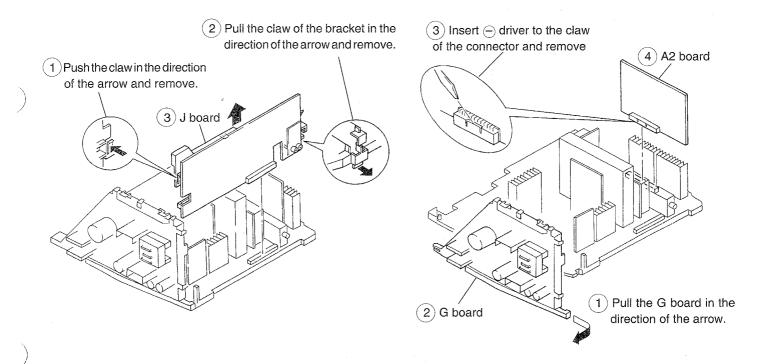


2-5. PCB SUPPORTER AND SHIELD CASE REMOVAL

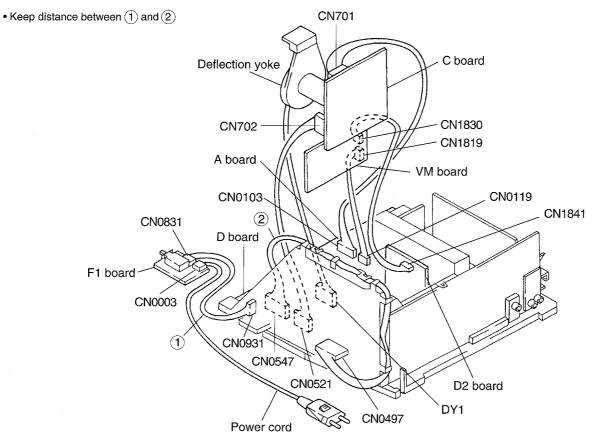


2-6. J BOARD REMOVAL

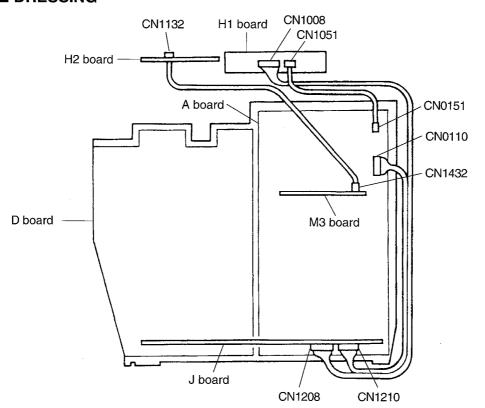
2-7. G AND A2 BOARDS REMOVAL

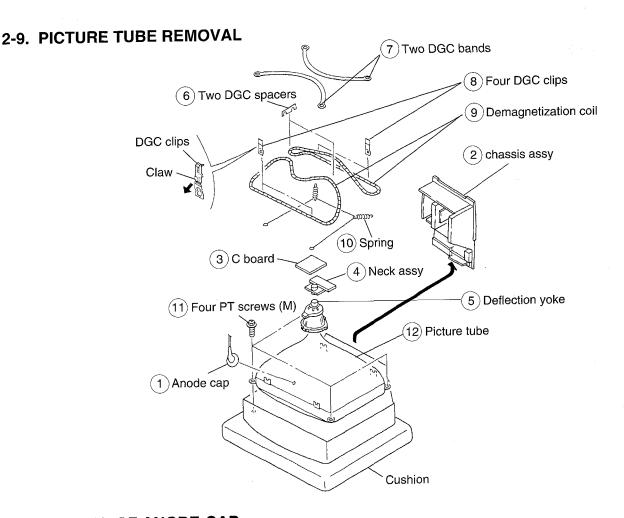


2-8-1. WIRE DRESSING



2-8-2. WIRE DRESSING





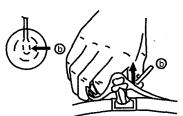
REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

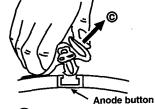
* REMOVING PROCEDURES.



1 Turn up one side of the rubber cap in the direction indicated by the arrow (a)



Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow (b)



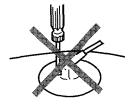
When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ©

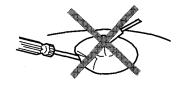
HOW TO HANDLE AN ANODE-CAP

- ① Don't damage the surface of anode-cap with sharp shaped material!
- 2 Don't press the rubber hardly not to hurt inside of anode-caps!

A metal fitting called as shatter-hook terminal is built into the rubber.

3 Don't turn the foot of rubber over hardly! The shatter-hook terminal will stick out or damage the rubber.





MEMO		
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SECTION 3 SET - UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to these settings:
 - ① Contrast80%

(or remote control normal)

☆ Brightness 50%

- Carry out the following adjustments in this order:
- 1. Beam landing
- 2. Convergence
- 3. Focus
- 4. White balance

Note: Testing equipment required.

- 1. Color bar/pattern generator
- 2. Degausser
- 3. DC power supply
- 4. Digital multimeter
- 5. Oscilloscope

Preparation:

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

- Input the white signal with the pattern generator.
 CONTRAST BRIGHTNESS normal
- 2. Position neck assy as shown in Fig.3-2.
- 3. Set the pattern generator raster signal to red.
- 4. Move the deflection yoke forward and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Fig. 3-1 3-3)
- 5. Move the deflection yoke forward and adjust so that the entire screen becomes red. (See Fig. 3-1)
- Switch the raster signal to blue, then to green and verify the condition.
- 7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
- 8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig. 3-4)

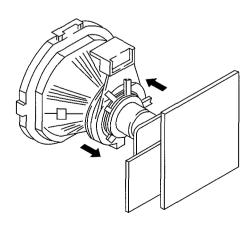
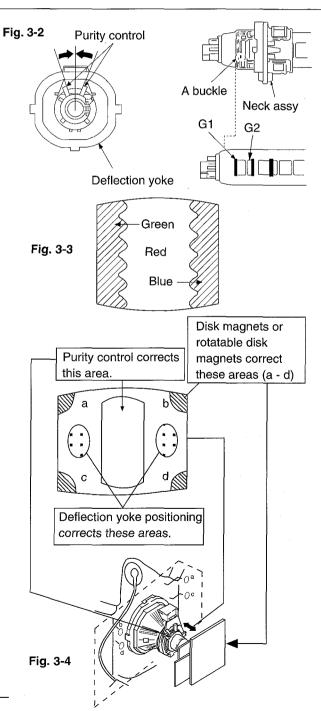


Fig. 3-1

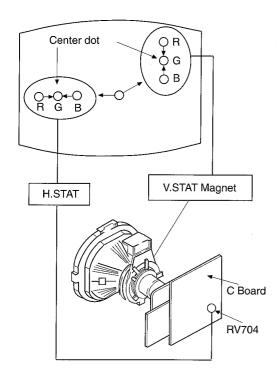


3-2. CONVERGENCE

Preparation:

- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide a dot pattern.

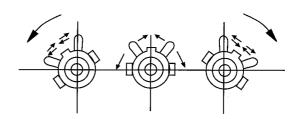
(1) Horizontal and vertical static convergence



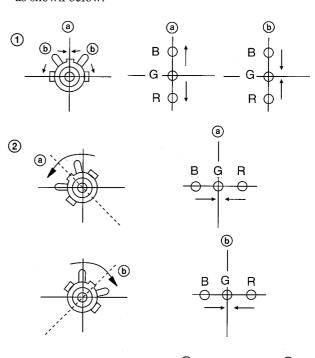
- 1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
- 2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
- 3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.

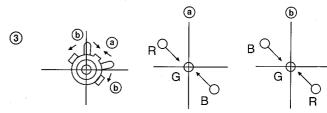
(In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

• Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

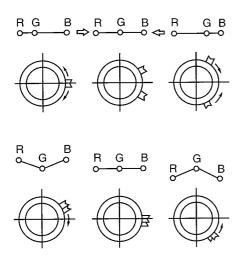


4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.



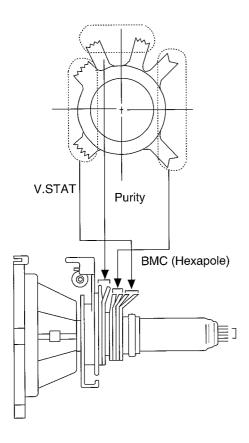


• Operation of BMC (Hexapole) Magnet



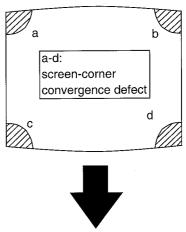
 The respective dot position resulting from moving each magnet interact, so be sure to perform adjustment while tracking.

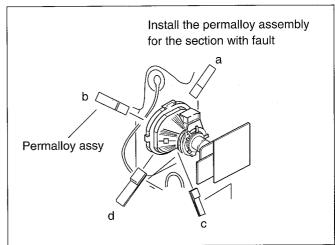
Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of the screen (by moving the dots in the horizontal direction).



(2) Screen corner convergence.

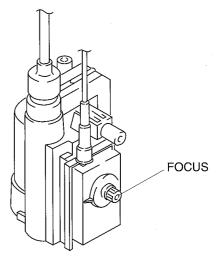
If you are unable to adjust the corner convergence properly, correction is possible by the use of permalloy assemblies.





3-3. Focus

Adjust the focus to optimize the screen.



3-4. WHITE BALANCE

White balance adjustment

- 1. Receive an all-white signal.
- 2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" on how to enter service mode.)
- 3. Select TDA4780 on menu.

	T	T"
Item No.	Adjustment item	Data Amount
01	BRIGHT	31
02	COLOR	31
03	PICT	52
04	HUE	31
05	R GAIN	31
06	G GAIN	ADJ.
07	B GAIN	ADJ.
08	R LEVEL REF	ADJ.
09	G LEVEL REF	ADJ.
10	B LEVEL REF	ADJ.
11	PEAK DRV LIMIT	36
12	GAMMA	31
13	SANDCASTLE 2 LEVEL-5	ON
14	DELOF	OFF
15	DATA BUFFER	OFF

Select 4 \$ and press OK.

- 4. Set picture to MAX.
- 5. Adjust G-DRIVE, B-DRIVE with ♣, ▶ buttons so that the white balance becomes optimum.
- 6. Press OK button to write the data for each item.
- 7. Set picture to MIN.
- 8. Adjust R LEVEL REF, G LEVEL REF, and B LEVEL REF with $\frac{1}{2}$, $\boxed{}$ buttons so that the white balance becomes optimum.
- 9. Press OK button to write the data for each item.

SECTION 4 CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-831.

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set. Then press the button \circlearrowleft on the remote commander twice.

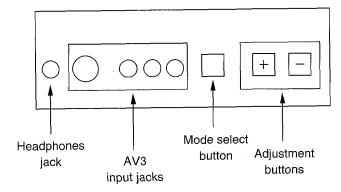
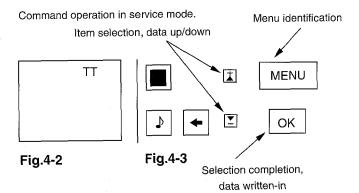


Fig.4-1

2. "TT" will appear at the upper right corner of the screen.



3. Press the MENU button on the remote commander to obtain the menu on the screen.

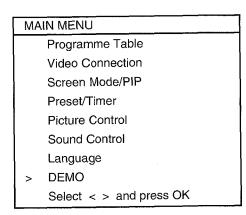


Fig.4-4

- 4. Press the

 and

 buttons on the remote commander and move > to DEMO.
- 5. Press OK button to proceed to the next menu.
- 6. The menu of Fig. 4-5 will appear on the screen. Select the DEVICE corresponding to the adjustment item from the table on the next page.

DEVIC	DES
	INIT TV
>	TDA4686/4780
	ECO 3
	CXD2018Q
	TDA9145
	CXA1526
	TDA6812
	CXA7948a
	PiP
	Select < > and press OK

Fig 4-5

7. If adjustment item is TDA4780, press the ▼ button and move > to TDA4780.

TDA4780

Item No.	Adjustment item	Data Amount
> 01	BRIGHT	31
02	COLOR	31
03	PICT	52
04	HUE	31
05	R GAIN	41
06	G GAIN	38
07	B GAIN	31
08	R LEVEL REF	31
09	G LEVEL REF	31
10	B LEVEL REF	31
11	PEAK DRV LIMIT	36
12	GAMMA	31
13	SANDCASTLE 2 LEVEL-5	ON
14	DELOF	OFF
15	DATA BUFFER	OFF

Select ▲ ▼ and press OK.

- 8. Press OK button to get the next selection menu.
- 9. Press button and move > to the adjustment item and press OK button.
- 10. Press and buttons to change the data in order to comply with each standard.
- 11. Press OK button to write data.
- 12. Turn off the power to quit service mode when adjustments are completed.

TDA4780

Item No.	Adjustment item	Data Amount
01	BRIGHT	31
02	COLOR	31
03	PICT	52
04	HUE	31
05	R GAIN	41
06	G GAIN	38
07	B GAIN	31
08	R LEVEL REF	31
09	G LEVEL REF	31
10	B LEVEL REF	31
11	PEAK DRV LIMIT	36
12	GAMMA	31
13	SANDCASTLE 2 LEVEL-5	OΝ
14	DELOF	OFF
15	DATA BUFFER	OFF
16	NTSC MATRIX	OFF
17	HDTV	OFF
18	FSBL	OFF
19	AUTO CUT OFF	ΟN
20	FSW 2 DISABLE	OFF
21	FSW 2	OFF
22	FSW 1 DISABLE	OFF
23	FSW 1	OFF
24	ADAPTIVE BLACK	OFF
25	Y HIGH 1V	OFF
26	MOD 2	OFF
27	BLUE STRETCH	OFF
28	VM OUT	ON
29	PEAK DRV ABSOLUTE	ON
30	TIME CNST PEAK LIMIT	OFF
31	No selection	OFF
32	SUB BRIGHT	-5
33	SUB COLOR	0

CXD2018Q

Item No.	Adjustment item	Data Amount
01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP. V	13
13	HV COMP. H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAN	OFF
19	INTERLACE	OΝ
20	H SHIFT	32

Typical On Screen Display based values when receiving PAL Phillips pattern.

TDA6812	ADJ.
Stereo-Separation	(30)

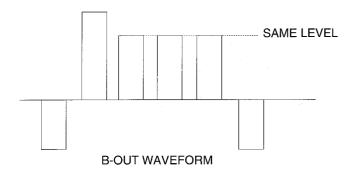
Should be adjusted twice 4:3 and 16:9 mode.

SUB BRIGHTNESS ADJUSTMENT

- 1. Input a Phillips pattern.
- 2. Enter into service mode and press 23.
- 3. Adjust data so that 0-IRE of grey scale and CUT-OFF 20-IRE are only slightly visible on screen.

SUB COLOR ADJUSTMENT

- 1. Input a PAL color bar signal.
- 2. Connect an oscilloscope to pin 3 (B) of CN0403 on the C board.
- Enter into service mode and press 33 of TDA4780, SUB COLOR.
- 4. Adjust data so that the right sides of the waveform are at the same level.



STEREO-SEPARATION ADJUSTMENT

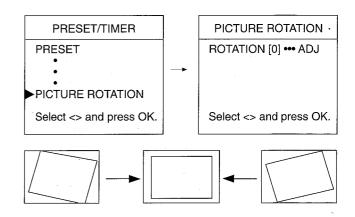
- 1. Input a 1kHz stereo signal to the L-ch and a 400Hz stereo signal to the R-ch.
- 2. Enter into service mode.
- 3. Adjust data so that sound is not detected in the R-ch and the L-ch.

DRIVE AND CUT OFF

See direct test mode list attached and refer to sub brightness or such for adjustment method.

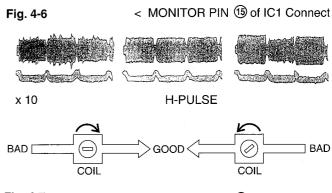
PICTURE ROTATION

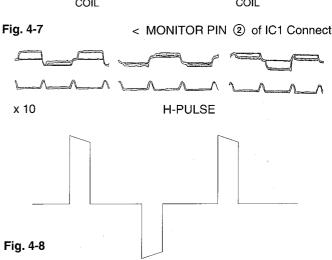
- 1. Input a PAL color bar signal.
- 2. Enter into service mode.
- 3. Press the MENU button of the commander to get the menu on screen.
- 4. Press the **★** and **▼** buttons on the commander and move > to PRESET/TIMER.



BELL FILTER ADJUSTMENT (L3, L2)

- 1. Input PHILLIPS Signal.
- 2. Connect an oscilloscope to pin (5) of IC1 on the E2 board.
- 3. Adjust L3 (Bell Filter) to get a flat chroma/smooth signal see (Fig.4-6).
- 4. Connect an oscilloscope to pin ② of IC1 on the E2 board.
- 5. Adjust L2 (B Y) to get symmetrical transient between $(R Y) \rightarrow (B Y)$ and $(B Y) \rightarrow (R Y)$ see (Fig.4-7).
- 6. Connect pin 5 of CN2.
- 7. Confirm ID flip-flop output signal is as indicated in (Fig.4-8).

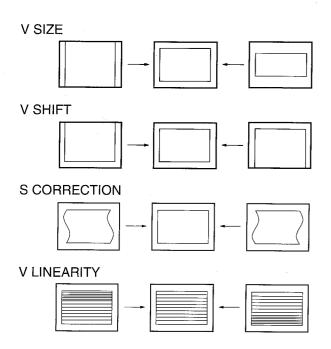


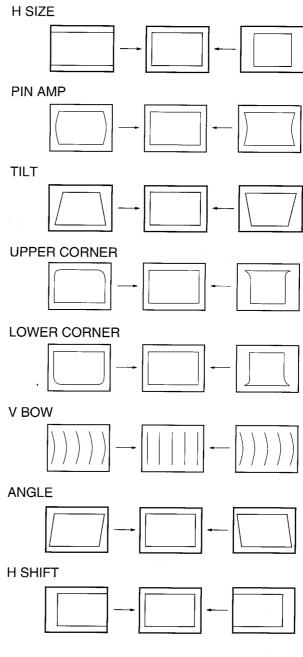


DEFLECTION SYSTEM ADJUSTMENT

- 1. Enter into service mode and select CXD2018Q.
- 2. Select and adjust each item in order to obtain the optimum image.

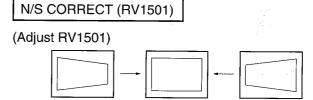
Item No.	Adjustment item	Data Amount
01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP. V	13
13	HV COMP. H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAN	OFF
19	NON INTERLACE	ON
20	H SHIFT	ADJ.
21	NS CORRECT 2R	ADJ.





3. Press OK button to write data.

If the menu display prevents accurate adjustment, press \propto to clear, to resume, press \propto once again.

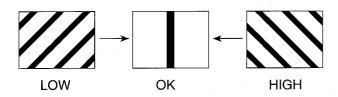


4-2. VOLUME ELECTRICAL ADJUSTMENTS

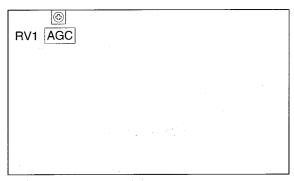
H-FREQ ADJUSTMENT (RV2501)

D BOARD (See page 28)

- 1. Input a Phillips pattern.
- 2. Add a $100\mu F$ 16V capacitor in parallel with R2503, to make a free running condition.
- 3. Adjust RV2501 to obtain frequency of 31.25Hz \pm 50Hz.

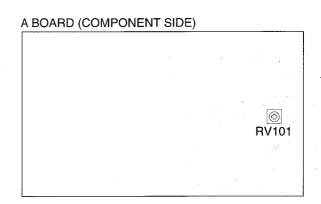


AGC ADJUSTMENT (IF BLOCK)



- 1. Receive an off-air signal.
- 2. Adjust the AGC RV1 so that there is no snow noise or cross-modulation visible on the screen.
- 3. Change the receiving channel and confirm status.

DET OUT ADJUSTMENT (RV101)



- 1. Input a Phillips pattern
- 2. Adjust RV101 so that 1.0Vp-p can be obtained at pin ⑤ of CN0109 on the (A BOARD).

4-3. TEST MODE 2:

Is available by pressing Test button twice, OSD 'TT' appears. The functions described below are available by pressing the two numbers. To release the Test Mode 2, press 0, 10, or 20 twice ... or switch the TV into Stand-by Mode.

Pressing the two local controls (+ and -) during Power ON will also switch into "TT" mode.

In TT mode, it is possible to remove the menu from the screen by pressing the Speaker OFF button. By pressing the Speaker OFF button a second time the menu will reappear. The function is kept even when the menu is not displayed !!.

Direct access to Picture maximum Direct access to Picture minimum Set the Volume to 35% (Production request) Set the Volume to 50% (Production request) Set the Volume to 65% (Production request) Set the Volume to 80% (Production request) Set the Volume to 80% (Production request) Set the Volume to 80% (Production request) To ensure that all TV sets leave the Production with the same presettings. Programme 1 is selected, AAV IN is set to AV1, AV Out is set to TV Out, Volume and HP Volume is set to 35%. Resolution is set to high. Format is set to 4:3. Pip is set to Top Left position,. Pip is switched off. TT mode is switched off, all analogue values are set to the reset setting (factory setting). Language reset (Production request) With this function the "Language Byte" in the NVM (Bank OAAH Adress ODCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new language is selected. The TT number will be deleted. All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.		O. 3.4 TV/hard-in according 1 TT 1 "
Direct access to Picture minimum Set the Volume to 35% (Production request) Set the Volume to 50% (Production request) Set the Volume to 65% (Production request) Set the Volume to 80% (Production request) To ensure that all TV sets leave the Production with the same presettings. Programme 1 is selected, AAV IN is set to AV1, AV Out is set to TV Out, Volume and HP Volume is set to 35%. Resolution is set to high. Format is set to 4:3. Pip is set to Top Left position,. Pip is switched off. TT mode is switched off, all analogue values are set to the reset setting (factory setting). Language reset (Production request) With this function the "Language Byte" in the NVM (Bank 0AAH Adress 0DCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new language is selected. The TT number will be deleted. All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.		Switch TV back in nomal mode - TT mode off
Set the Volume to 35% (Production request) Set the Volume to 50% (Production request) Set the Volume to 65% (Production request) Set the Volume to 80% (Production request) To ensure that all TV sets leave the Production with the same presettings. Programme 1 is selected, AAV IN is set to AV1, AV Out is set to TV Out, Volume and HP Volume is set to 35%. Resolution is set to high. Format is set to 4:3. Pip is set to Top Left position,. Pip is switched off. TT mode is switched off, all analogue values are set to the reset setting (factory setting). Language reset (Production request) With this function the "Language Byte" in the NVM (Bank 0AAH Adress 0DCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new language is selected. The TT number will be deleted. All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.	01	Direct access to Picture maximum
O4 Set the Volume to 50% (Production request) O5 Set the Volume to 65% (Production request) O6 Set the Volume to 80% (Production request) O7 no function Shipping Condition (Production request) To ensure that all TV sets leave the Production with the same presettings. Programme 1 is selected, AAV IN is set to AV1, AV Out is set to TV Out, Volume and HP Volume is set to 35%. Resolution is set to high. Format is set to 4:3. Pip is set to Top Left position, Pip is switched off. TT mode is switched off, all analogue values are set to the reset setting (factory setting). Language reset (Production request) With this function the "Language Byte" in the NVM (Bank 0AAH Adress 0DCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new language is selected. The TT number will be deleted. All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.	02	Direct access to Picture minimum
Set the Volume to 65% (Production request) Set the Volume to 80% (Production request) no function Shipping Condition (Production request) To ensure that all TV sets leave the Production with the same presettings. Programme 1 is selected, AAV IN is set to AV1, AV Out is set to TV Out, Volume and HP Volume is set to 35%. Resolution is set to high. Format is set to 4:3. Pip is set to Top Left position,. Pip is switched off. TT mode is switched off, all analogue values are set to the reset setting (factory setting). Language reset (Production request) With this function the "Language Byte" in the NVM (Bank 0AAH Adress 0DCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new language is selected. The TT number will be deleted. All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.	03	Set the Volume to 35% (Production request)
O6 Set the Volume to 80% (Production request) O7 no function Shipping Condition (Production request) To ensure that all TV sets leave the Production with the same presettings. Programme 1 is selected, AAV IN is set to AV1, AV Out is set to TV Out, Volume and HP Volume is set to 35%. Resolution is set to high. Format is set to 4:3. Pip is set to Top Left position,. Pip is switched off. TT mode is switched off, all analogue values are set to the reset setting (factory setting). Language reset (Production request) With this function the "Language Byte" in the NVM (Bank 0AAH Adress 0DCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new language is selected. The TT number will be deleted. All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.	04	Set the Volume to 50% (Production request)
Shipping Condition (Production request) To ensure that all TV sets leave the Production with the same presettings. Programme 1 is selected, AAV IN is set to AV1, AV Out is set to TV Out, Volume and HP Volume is set to 35%. Resolution is set to high. Format is set to 4:3. Pip is set to Top Left position,. Pip is switched off. TT mode is switched off, all analogue values are set to the reset setting (factory setting). Language reset (Production request) With this function the "Language Byte" in the NVM (Bank 0AAH Adress 0DCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new language is selected. The TT number will be deleted. All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.	05	Set the Volume to 65% (Production request)
Shipping Condition (Production request) To ensure that all TV sets leave the Production with the same presettings. Programme 1 is selected, AAV IN is set to AV1, AV Out is set to TV Out, Volume and HP Volume is set to 35%. Resolution is set to high. Format is set to 4:3. Pip is set to Top Left position,. Pip is switched off. TT mode is switched off, all analogue values are set to the reset setting (factory setting). Language reset (Production request) With this function the "Language Byte" in the NVM (Bank 0AAH Adress 0DCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new language is selected. The TT number will be deleted. All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.	-06	Set the Volume to 80% (Production request)
To ensure that all TV sets leave the Production with the same presettings. Programme 1 is selected, AAV IN is set to AV1, AV Out is set to TV Out, Volume and HP Volume is set to 35%. Resolution is set to high. Format is set to 4:3. Pip is set to Top Left position,. Pip is switched off. TT mode is switched off, all analogue values are set to the reset setting (factory setting). Language reset (Production request) With this function the "Language Byte" in the NVM (Bank 0AAH Adress 0DCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new language is selected. The TT number will be deleted. All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.	07	no function
With this function the "Language Byte" in the NVM (Bank 0AAH Adress 0DCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new language is selected. The TT number will be deleted. All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.	08	To ensure that all TV sets leave the Production with the same presettings. Programme 1 is selected, AAV IN is set to AV1, AV Out is set to TV Out, Volume and HP Volume is set to 35%. Resolution is set to high. Format is set to 4:3. Pip is set to Top Left position,. Pip is switched off. TT mode is switched off, all analogue values are set to the reset setting
All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display is kept. Direct access to Balance (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration.	09	With this function the "Language Byte" in the NVM (Bank 0AAH Adress 0DCH) is erased (set to 0FFH). The Language Menu appears now automatically when the TV set is switched ON as long as no new
 With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Direct access to Hue (Production request) With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). Display of Software Version and TV set configeration. 	10	All numbers with 0 (10, 20, 30, 40) will reset the TT number. A new number can be selected. TT display
12 With Cursor Up/Down the Balance can be controlled (w/o OSD, Menu display). 13 Display of Software Version and TV set configeration.	11	With Cursor Up/Down the Balance can be controlled
configeration.	12	With Cursor Up/Down the Balance can be controlled
14 Adjustment of N/S Correction	13	
	14	Adjustment of N/S Correction

	Read Factory setting from ROM (Programme Code) and store this data at Last Power Memory data location. (The previous last power memory data is overwritten). (For Service). AE-2F has 3 packages of Analogue datas:	
·	 Last Power Memory dta. This data is send continiously to the corresponding IC's (TDA9145, TDA6812) with this data the TV picture/sound appears. 	
15	 Reset data. By pressing "Reset" in menu this data is transfered from Reset Data location to the Last Power data location in NVM. That means the previous Last Power Memory Data is overwritten by the Reset data. Last Power memory and Reset data are now the same. 	
	 Factory fixed data. In the ROM Code of micro processor are also analogue datas which are fixed (ROM can't be changed). 	
16	Save actual Last Power Memory data at Reset Data location (the previous Reset data is overwritten) (For Service)	
15/16	With these two functions, it is possible to preset user defined Reset values (just TT 16) or to preset factory defined Reset values (first TT 15 then TT 16).	
17	This function presets the Labels for the AV sources: The Labels are AV1, RGB, AV2, YC2, AV3, VC3, AV4 and VC4. (Production request)	
18	Text possible On/Off selection of Text (toggle function).	
19	Direct access to Stereo Separation. With Cursor Up/Down command the Separation can be adjusted. (no need to select the menu).	

20	see TT10 In case of TT functions which give the possibility of "Direct access", the adjsutment can be done with Cursor Up/Down commands. After releasing the selected TT function by TT 00 or other TT number the adjustment value is stored automatically.		
21	no function		
22	no function		
23	no function		
24	no function		
25	no function		
26	Text Character Char set 06 -> West Europe (see 9.24 Test Character Set)		
27	Text Character Char set 38 -> East Europe (see 9.24 Test Character Set)		
28	Text Character Char set 40 -> West Europe US English (see 9.24 Test Character Set)		
29	Text Character Char set 55 -> West Europe Turkish (see 9.24 Test Character Set)		
30	see TT10		
31	Direct access to Red Gain [TDA4780]		
32	Direct access to Green Gain [TDA4780]		
33	Direct access to Blue Gain [TDA4780]		
34	Reserved for TDA4780 Red Level Ref.		
35	Reserved for TDA4780 Green Level Ref.		
36	Reserved for TDA4780 Blue Level Ref.		
37	Direct access to Peak Dirve Limit [TDA4780]		
38	Direct access to Gamma Level [TDA4780]		
39	no function		
40	see TT 10		
41	TDA4780 is set to default data (almost Center positions).		
42	TDA4780 is set to default data (almost Center positions).		
43	TDA4780 is set to default data (almost Center positions).		
44	ECO 2 is set to default data.		
45	Set NVM to Protect mode (Bank 0AEH Adr. 0FFH write with 0).		

	IR CHannel Pressetting Mode The channel presseting can be done by a Special IR Transmitter		
46	Sequence: TT 46 -> PR Number select display appears Select Prog. No from where the channels shall be stored> Now TV is waiting for IR sequence. <> If no IR transmission starts TT 46 is released after 20 sec. < ! Note: when TT 46 is active, any IR transmission will		
	be interpreted as PROG Data!		
47	Adjustment of MPIP MultiPIP horizontal position.		
48	Adjsutment of MPIP MultiPIP vertical position. After using TT 49 a complete new adjustment is necessary!!!		
49	The EEPROM Testbyte is erased. After Power OFF -> ON the complete EEPROM data (except channel tables) are overwritten. EEPROM Protection Byte is set to 0 - protection mode.		

Note:

For No. 35 / 36 / 37 / 38 special pressing (AKB, forced Color Mode, Trap) is selected.

After selecting a new Test Mode Number, the AKB is switched ON, the Trap is switched On and TDA9145 is switched to Auto Search Mode.

Note

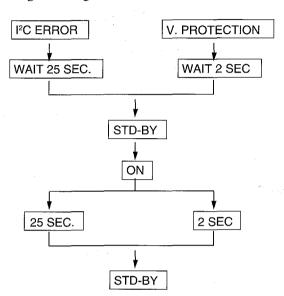
Functions TT 41/42/43/44 are only available when PR 99 is selected, to avoid inadvertent usage. These functions overwrite the complete data package for the selected IC in the EEPROM. After using one of these functions a complete new adjustment of the selected IC is necessary!!!!!

In Test Mode 2 the Menu display is switchable by the Speaker-Off button.

4-4. ERROR MESSAGE

Self diagnostic system operates as follows.

 When the microprocessor is unable to receive an acknowledgement back from the device, the LED starts flashing according to the table below.



In the case of more than one error in parallel, the blinking error shows max priority according to the error number (e.g. error 2 and error 5 appear together, then LED,s show error 2).

ERROR TABLE

ERROR COUNT	IC TYPE	FUNCTION
1	II C BUS	SDA low
2	NVM	EEPROM
3	SDA3202	Tuner PII
4	TDA9145	Colour decoder
5	TDA4780	RGB/Jungle
6	TDA6812	Sound processor
7	CXD2018Q	V deflection
8	CXA1855S	AV switch
11	SDA5273P	Text
13		V protection

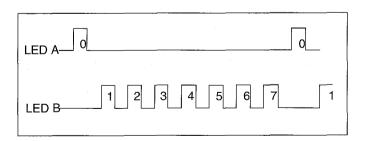
Stand By LED blinking

No 1K return

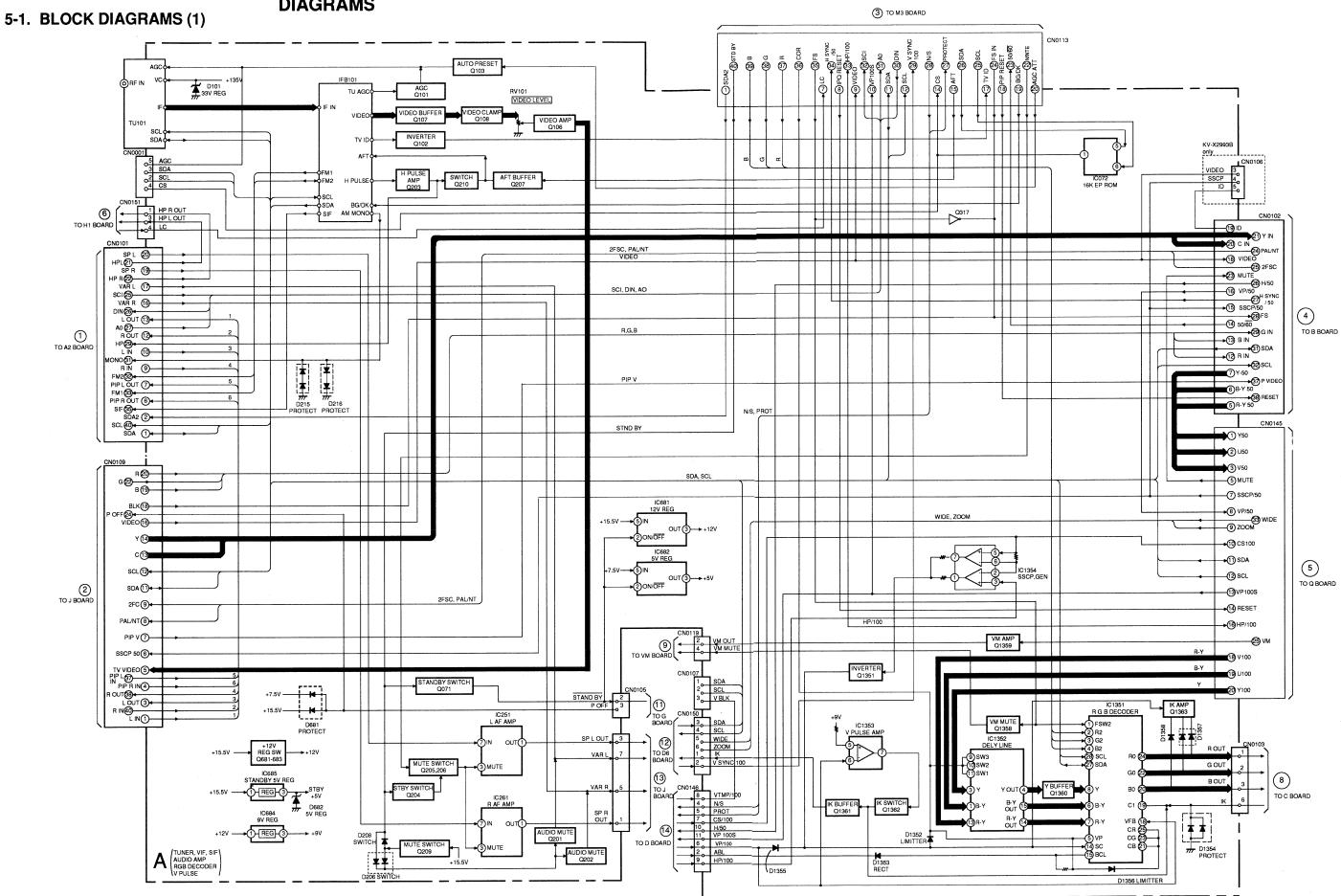
4-5. ERROR I²C BUS DIAGNOSTIC SYSTEM FOR AE-2F CHASSIS.

For all IC's used in the AE -2F chassis which are necessary to obtain picture and sound there is an inbuilt I $\rm C^2$ Bus diagnostic system.

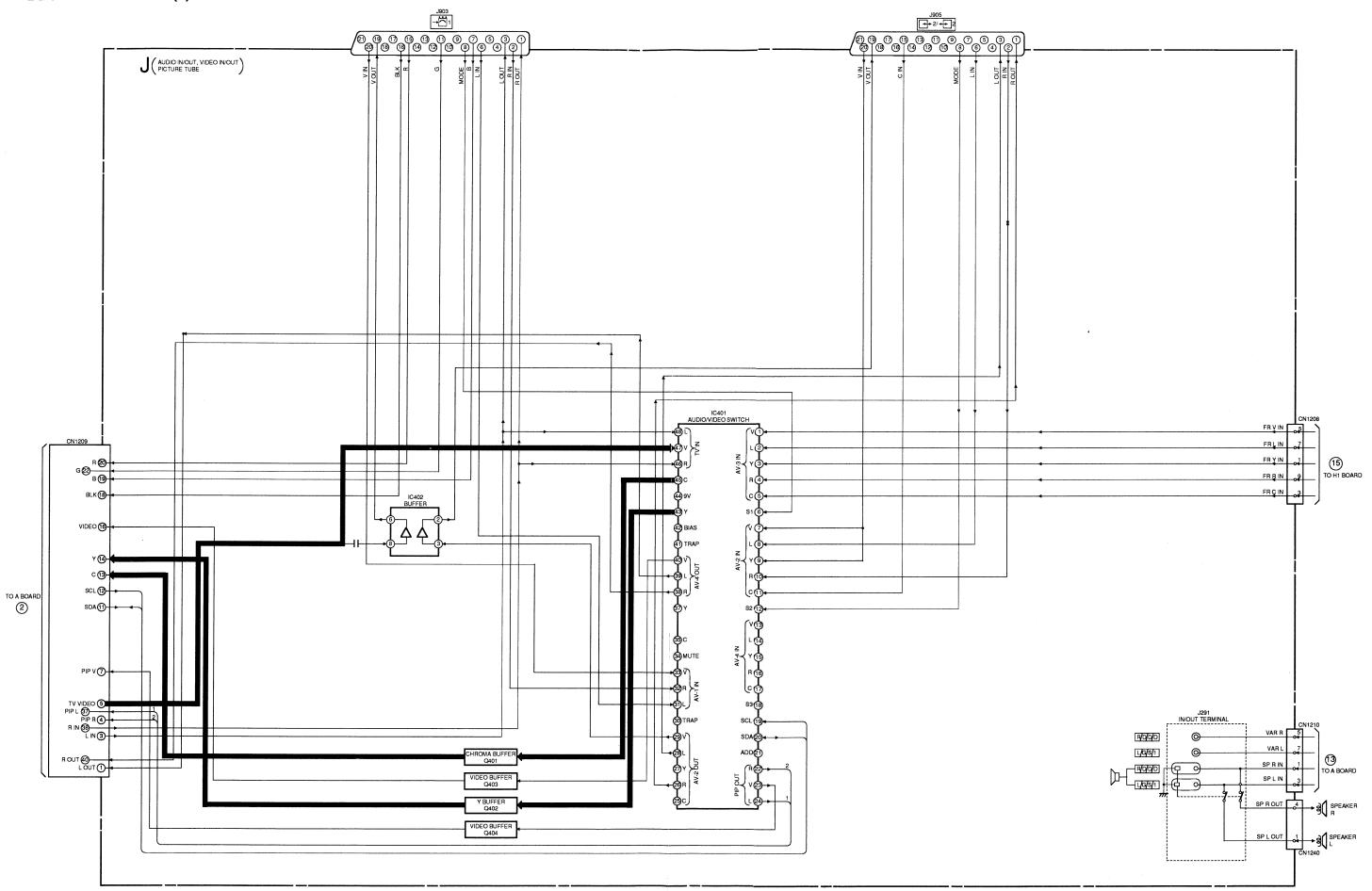
In the case of no acknowledge bit, LED A and LED B start blinking as shown.



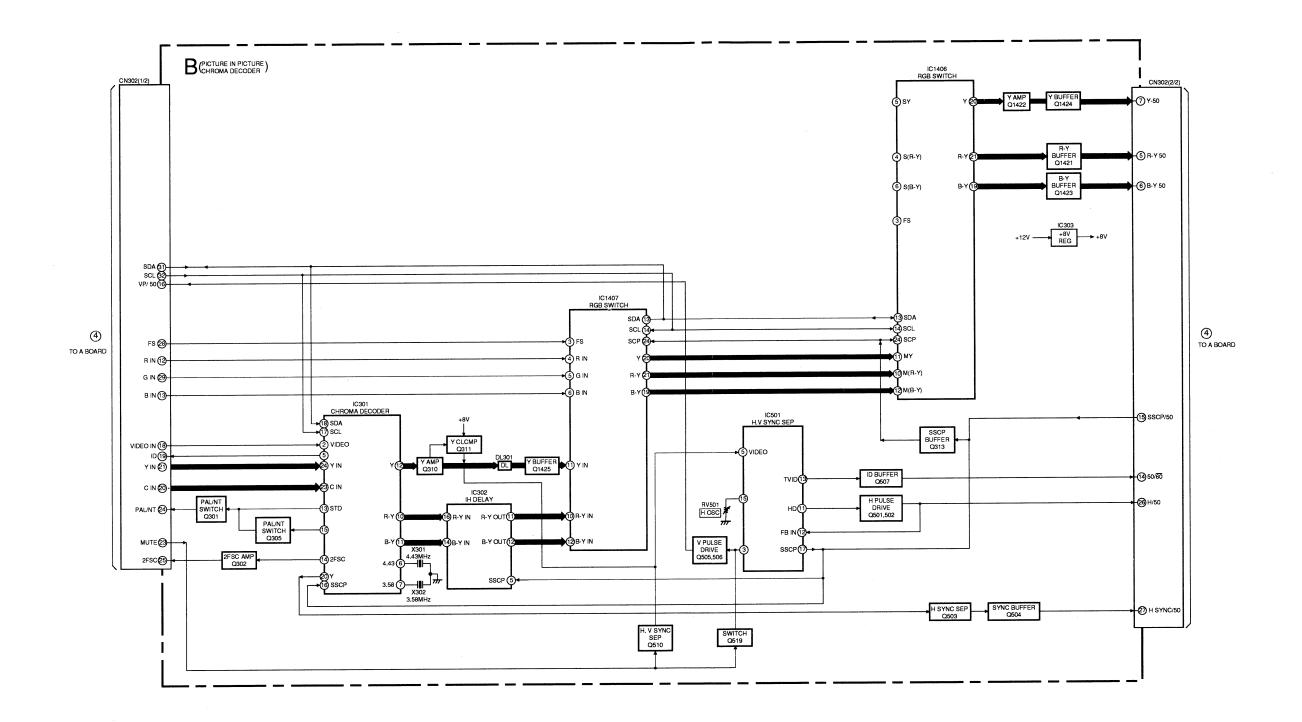
SECTION 5 DIAGRAMS



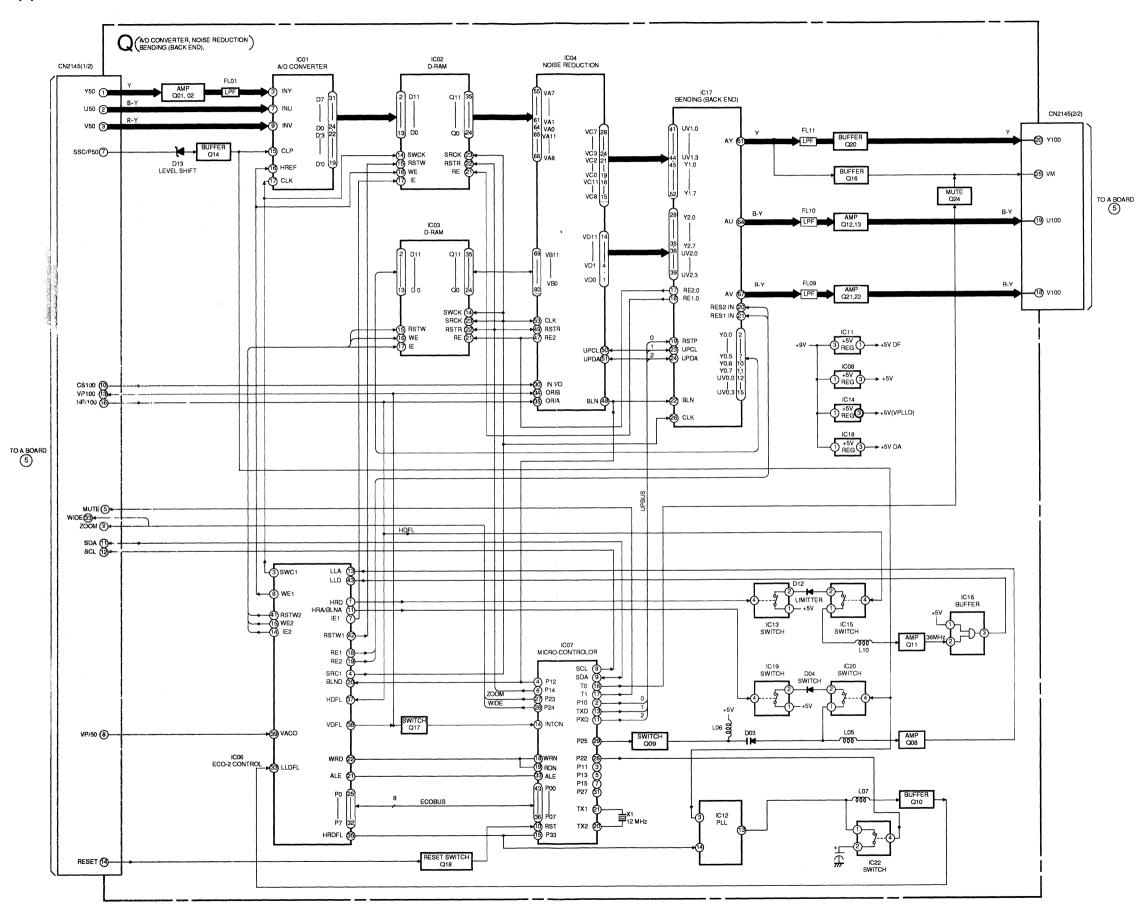
BLOCK DIAGRAMS (2)



BLOCK DIAGRAMS (3)

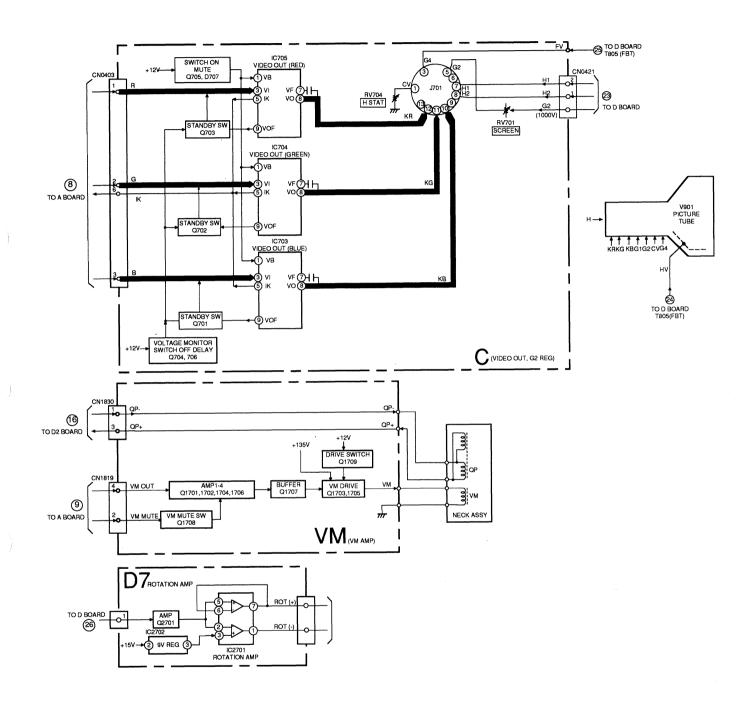


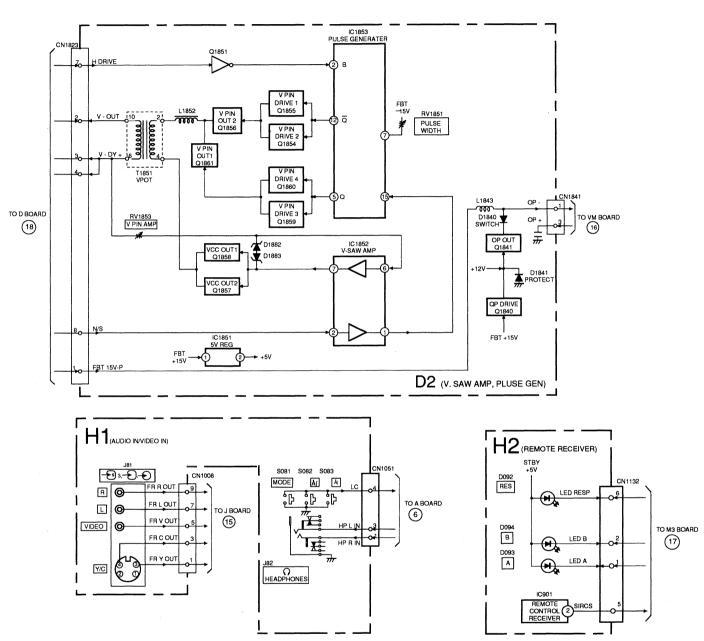
BLOCK DIAGRAMS (4)



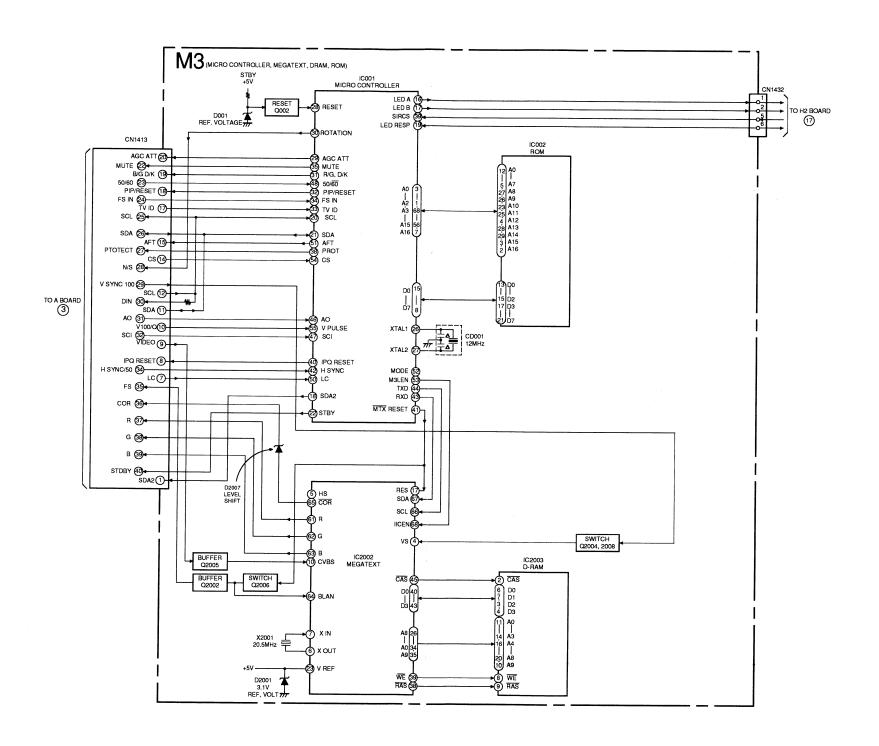
BLOCK DIAGRAMS (5)

BLOCK DIAGRAMS (6)

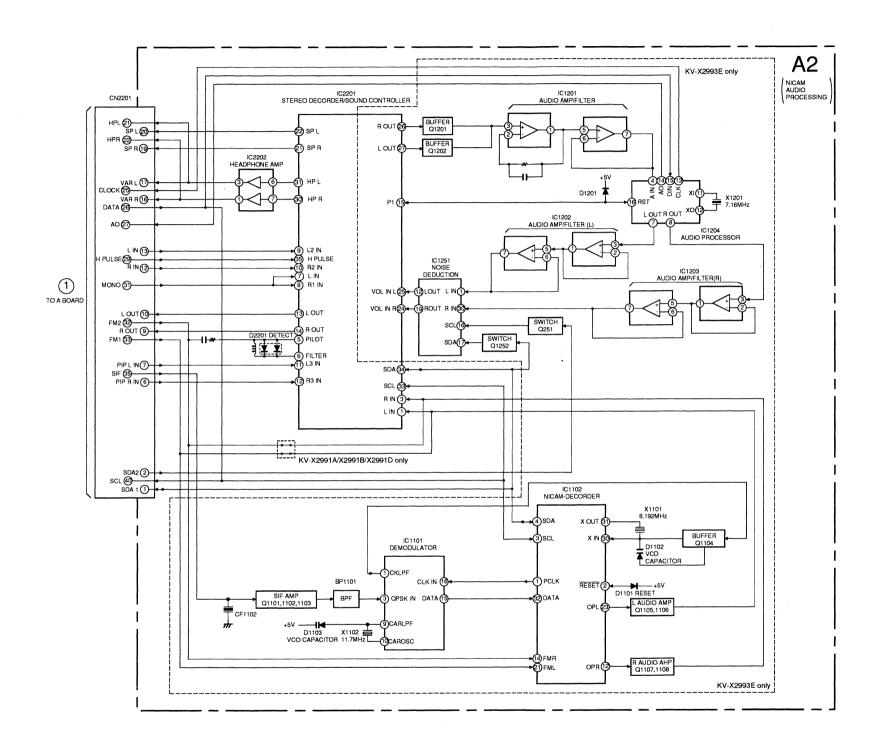




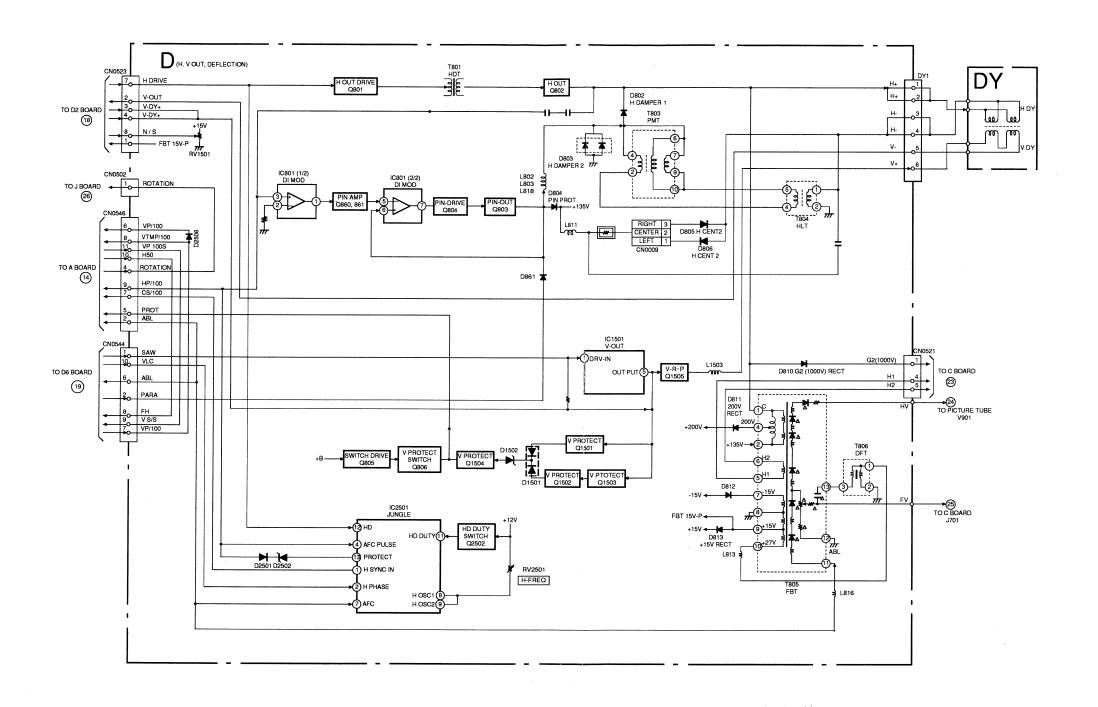
BLOCK DIAGRAMS (7)



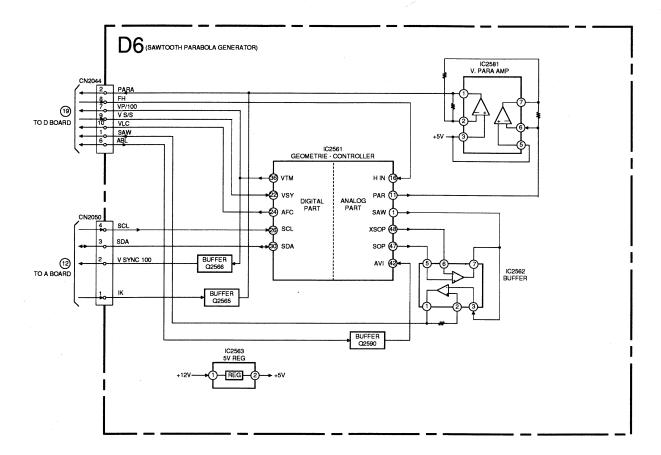
BLOCK DIAGRAMS (8)



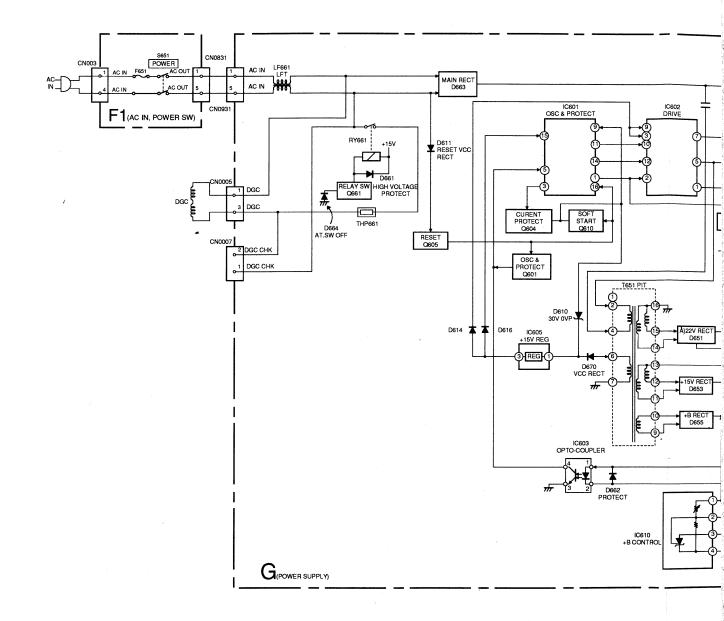
BLOCK DIAGRAMS (9)

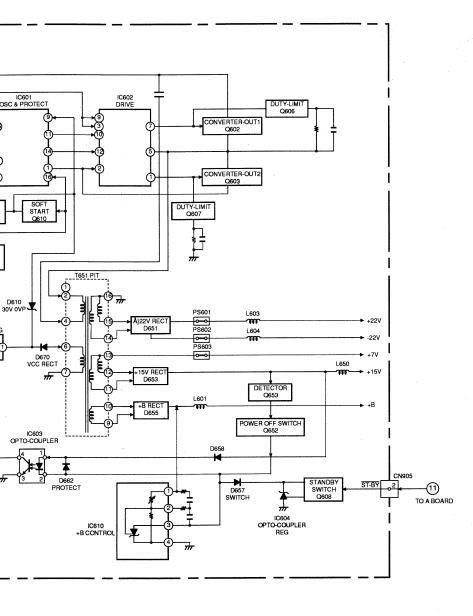


BLOCK DIAGRAMS (10)

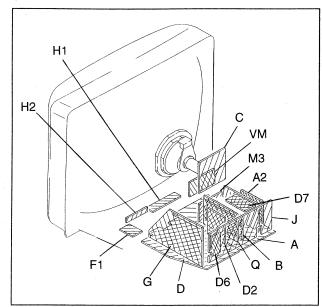


BLOCK DIAGRAMS (11)





5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

- All capacitors are in μF unless otherwise noted.
- pF: μμF 50WV or less are not indicated except for electrolytic and tantalums.
- · All electrolytics are in 50V unless otherwise specified.
- · Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm Rating electrical power 1/4W

- Chips resistors are 1/10W.
- · All resistors are in ohms.

 $k\Omega = 1000\Omega$, $M\Omega = 1000K\Omega$

- : nonflammable resistor.
- was: fusible resistor.
- ∆: internal component.
- ____: panel designation, and adjustment for repair.
- · All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ___ : earth-ground. (cool)
- ; earth-chassis. (hot)
- · All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 $M\Omega$ digital multimeter.
- Readings are taken with a PALcolour-bar signal input.
- · Voltage variations may be noted due to normal production tolerance.
- · Circled numbers are waveform references.
- : B+ line.
- □▼型: B- line.
- signal path.

Reference inf	ormation	
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
r.	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR

Components identified by shading and marked Λ are critical for safety. Replace only with the part number specified.

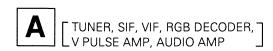
HIGH TEMPERATURE

HIGH RIPPLE

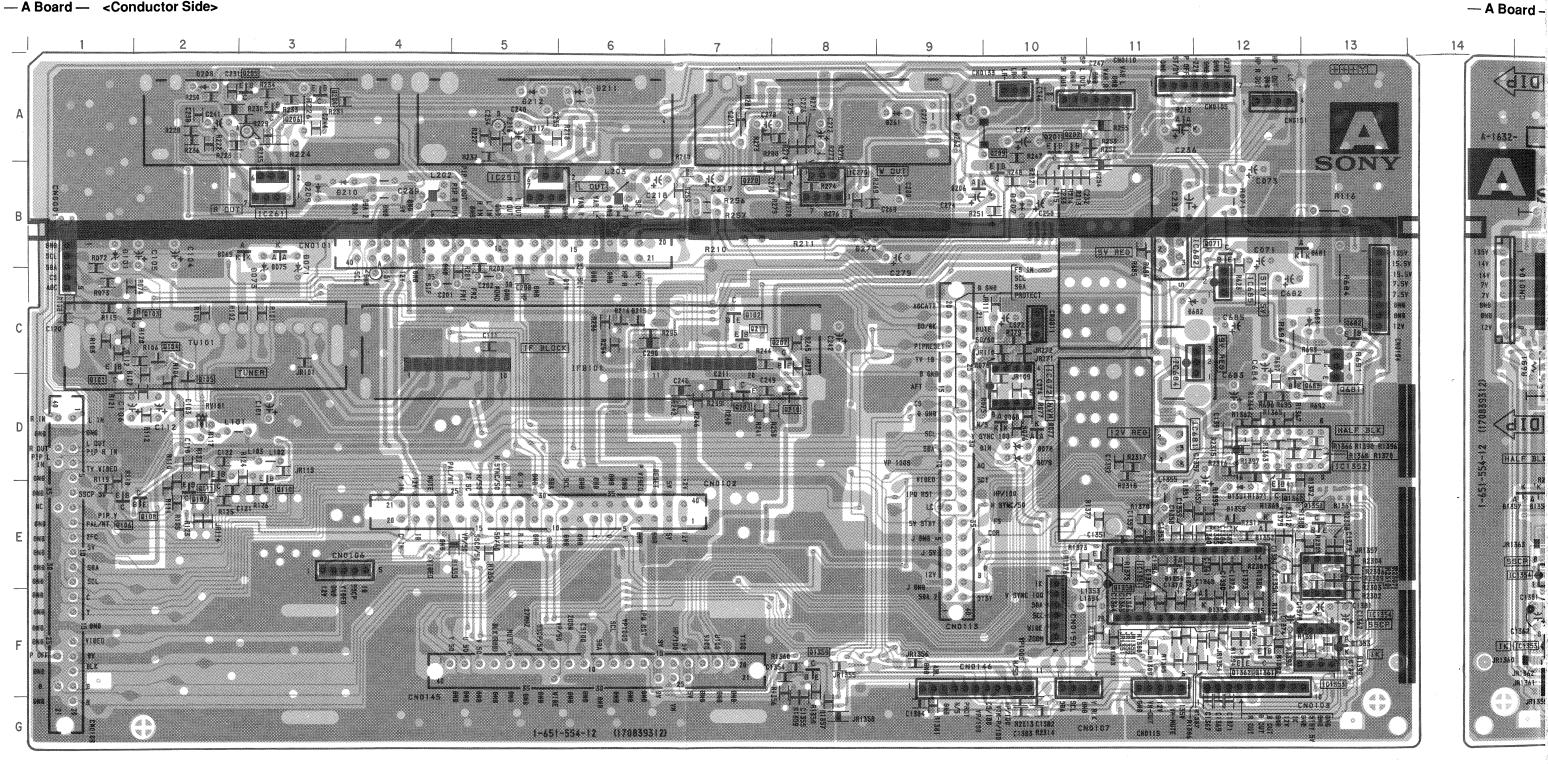
: ALT

: ALR

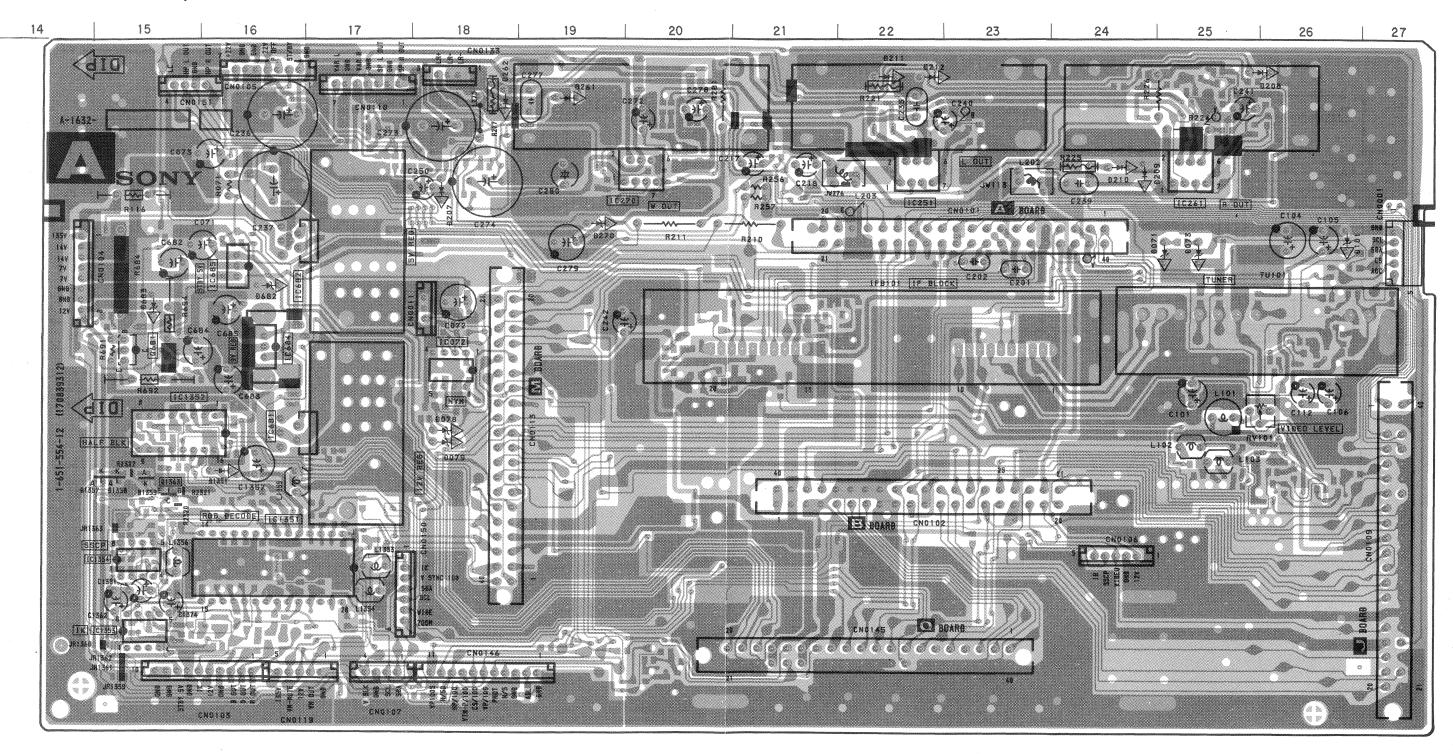
Les composants identifies par une trame et une marque ∆ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.



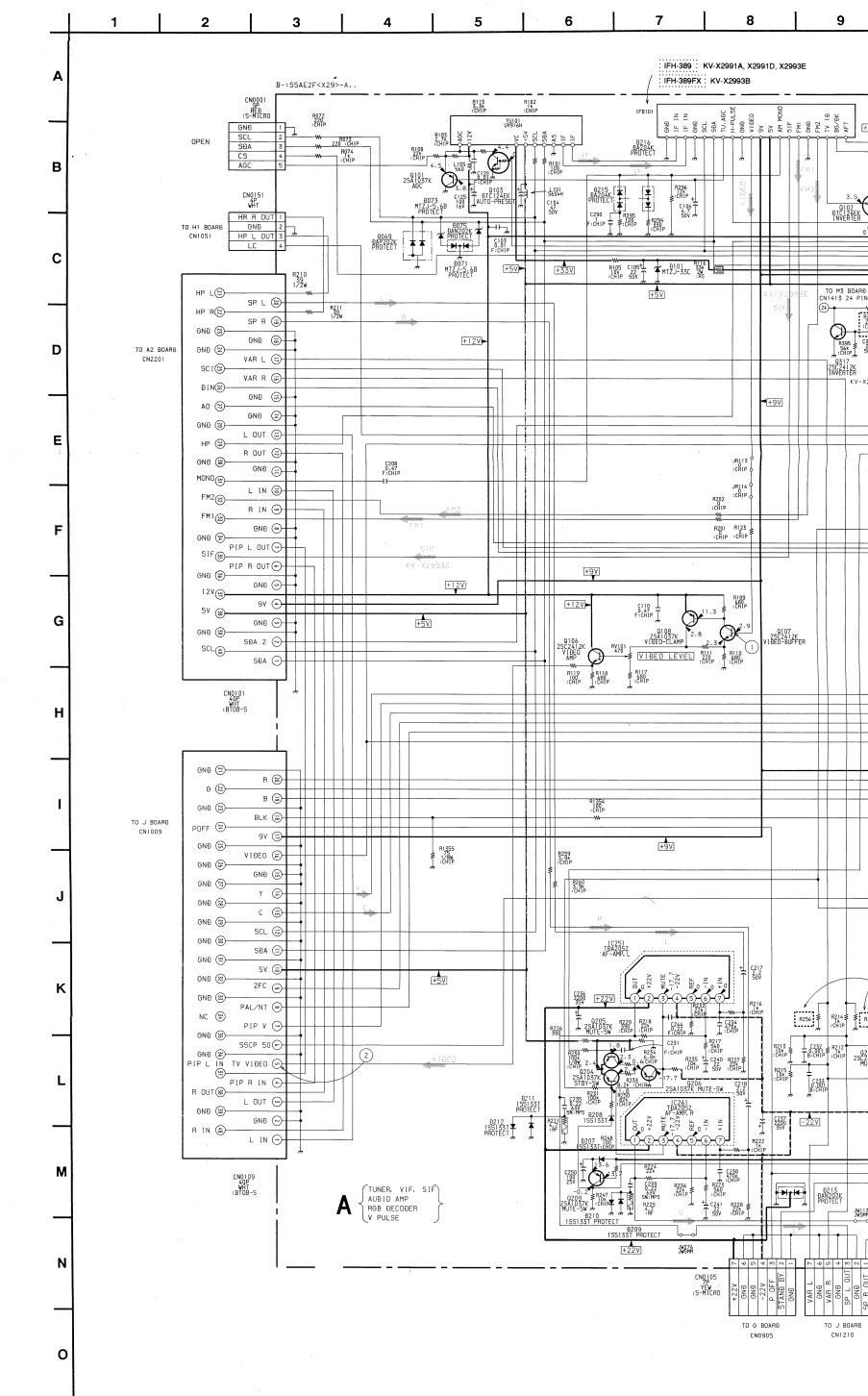
— A Board — <Conductor Side>



— A Board — <Component Side>

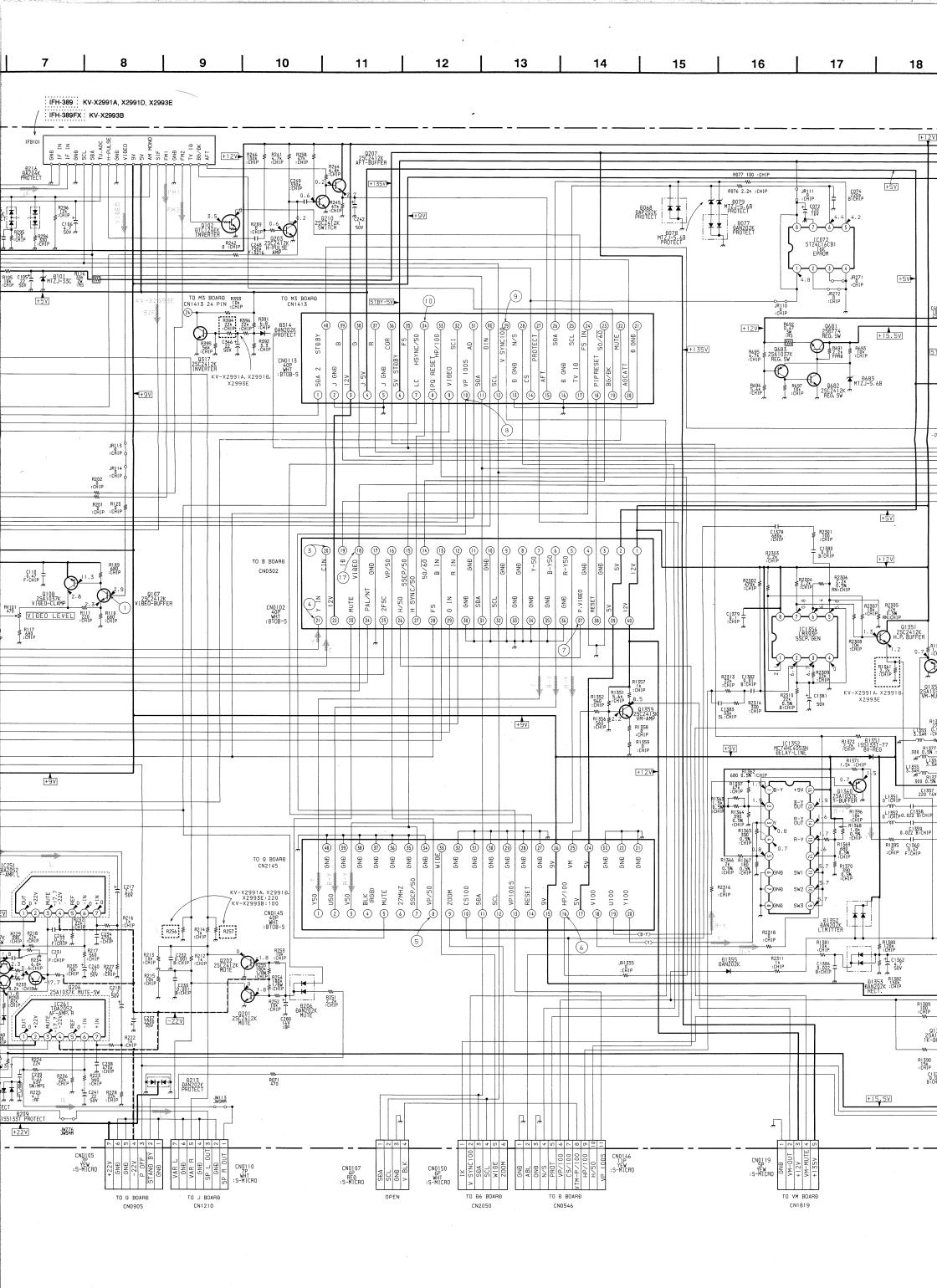


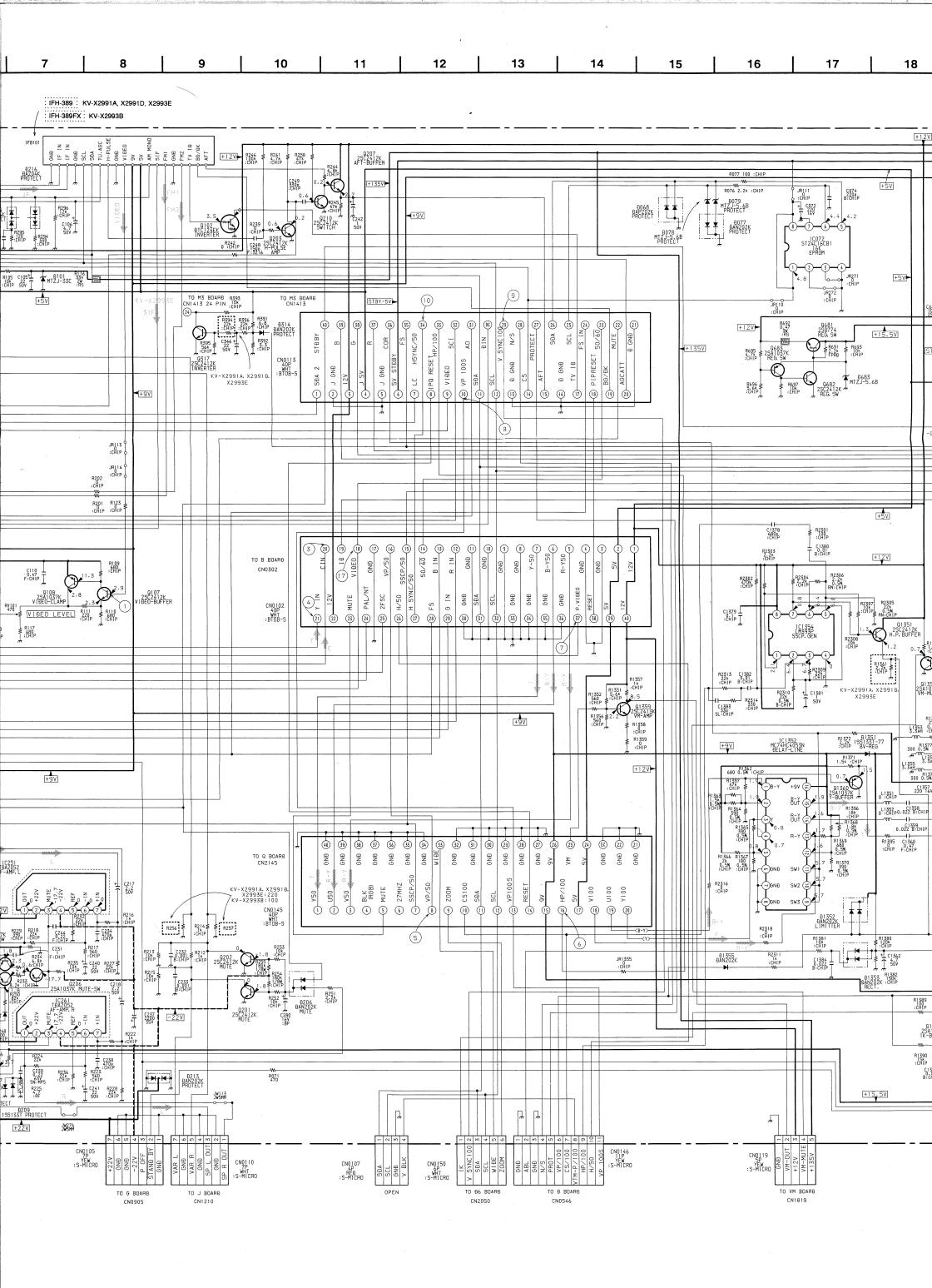
- Pattern from the side which enables seeing.
- : Pattern of the rear side.



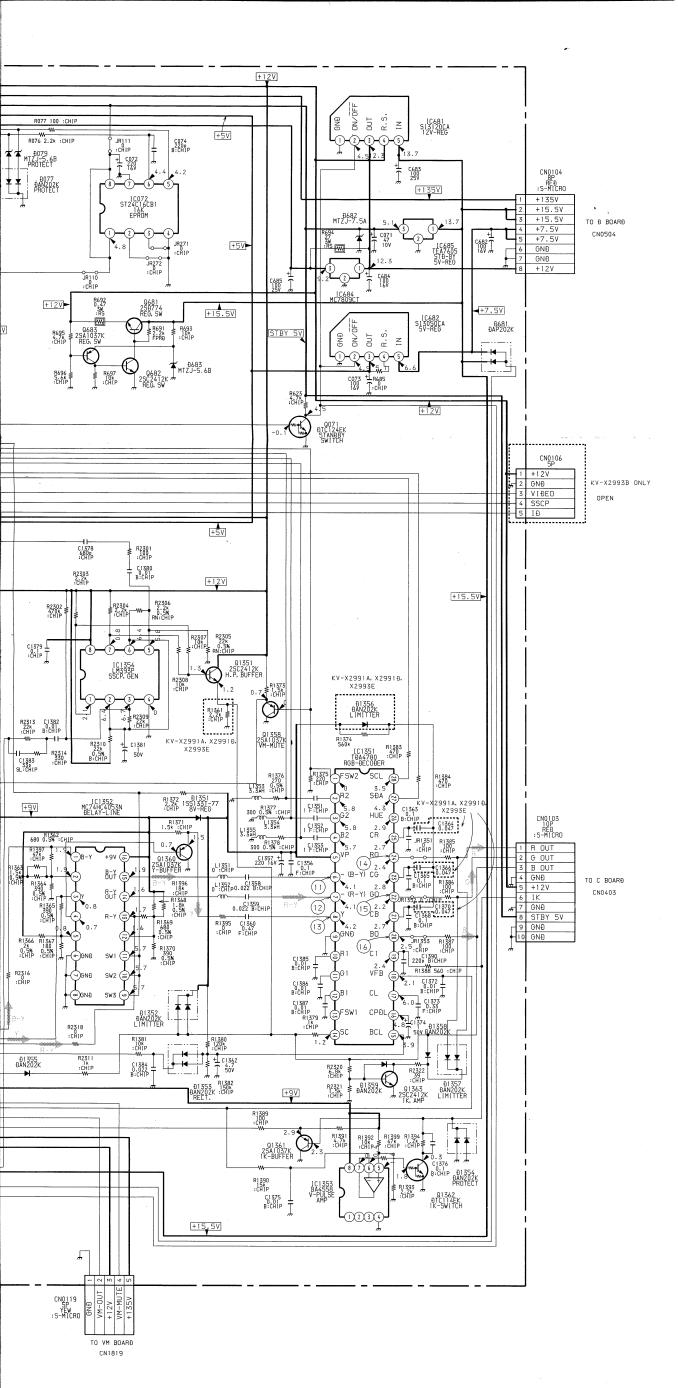
— A Board —

— A Board —					
IC		DIODE			
IC072 IC251 IC261 IC270 IC681 IC682 IC684 IC685 IC1351 IC1352 IC1353 IC1354	D-10 B-5 B-3 B-8 D-11 B-11 C-11 C-12 E-11 D-12 F-13	D068 D069 D071 D073 D075 D077 D078 D079 D101 D206 D207 D208 D209	D-10 B-3 B-3 B-3 D-10 D-10 D-10 B-1 B-9 B-10 A-2		
TRANSIS	TRANSISTOR		B-3 B-3 A-6		
Q071 Q101 Q102 Q103 Q106 Q107 Q108 Q201 Q202 Q203 Q204 Q205 Q206 Q207 Q209 Q210 Q270 Q2681 Q681 Q682 D683	B-12 C-1 D-7 C-2 E-1 E-2 A-10 D-7 A-3 A-3 D-8 B-10 D-8 B-7 C-13 D-12	D211 D212 D213 D215 D216 D261 D262 D270 D681 D682 D683 D1351 D1352 D1353 D1354 D1355 D1356 D1357 D1358 D1359	A-6 A-5 A-11 C-6 C-6 A-9 B-8 B-13 C-11 E-12 E-11 E-12 E-11 E-15 E-15 E-15		
Q1351 Q1358 Q1359	E-13 E-11 F-8	VARIA RESIS			
	E-12 F-12 F-12	RV101	D-2		

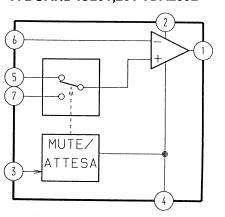




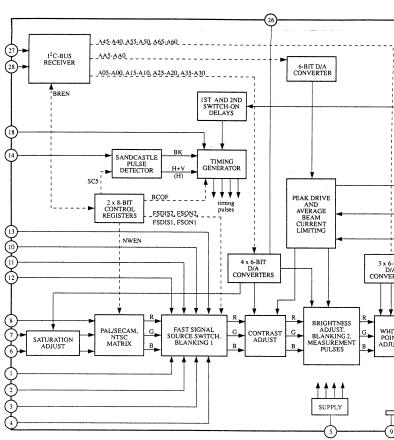




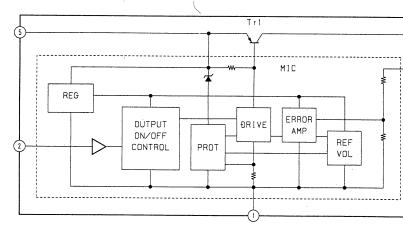
A BOARD IC251,261 TDA2052



A BOARD IC1351 TDA4780



A BOARD IC681 SI3120CA



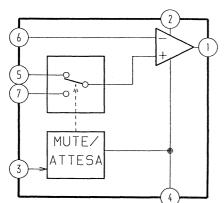
TO Đ BOARĐ

KV-X2993B ONLY OPEN

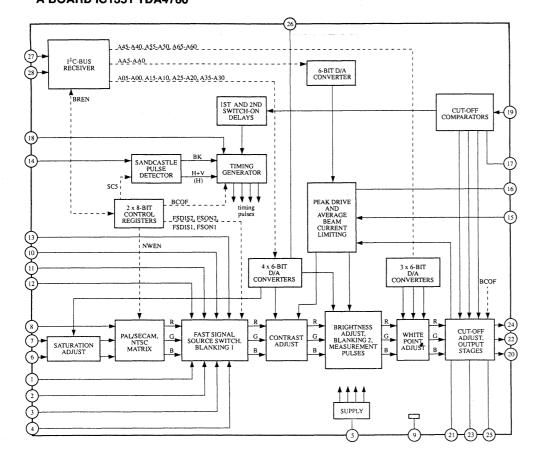
TO C BOARĐ

CN0504

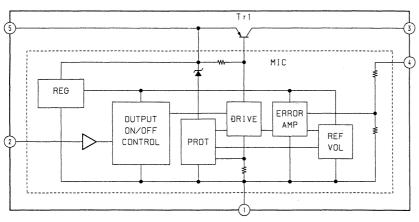
A BOARD IC251,261 TDA2052



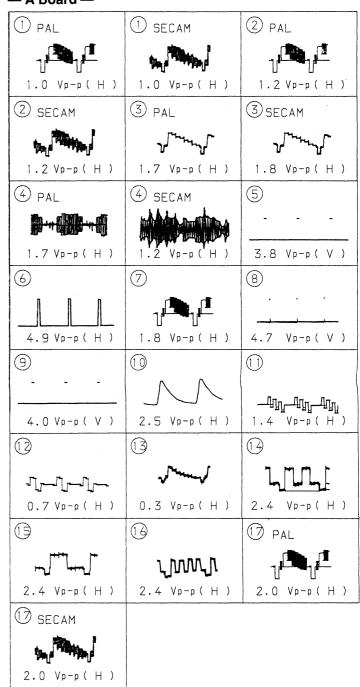
A BOARD IC1351 TDA4780

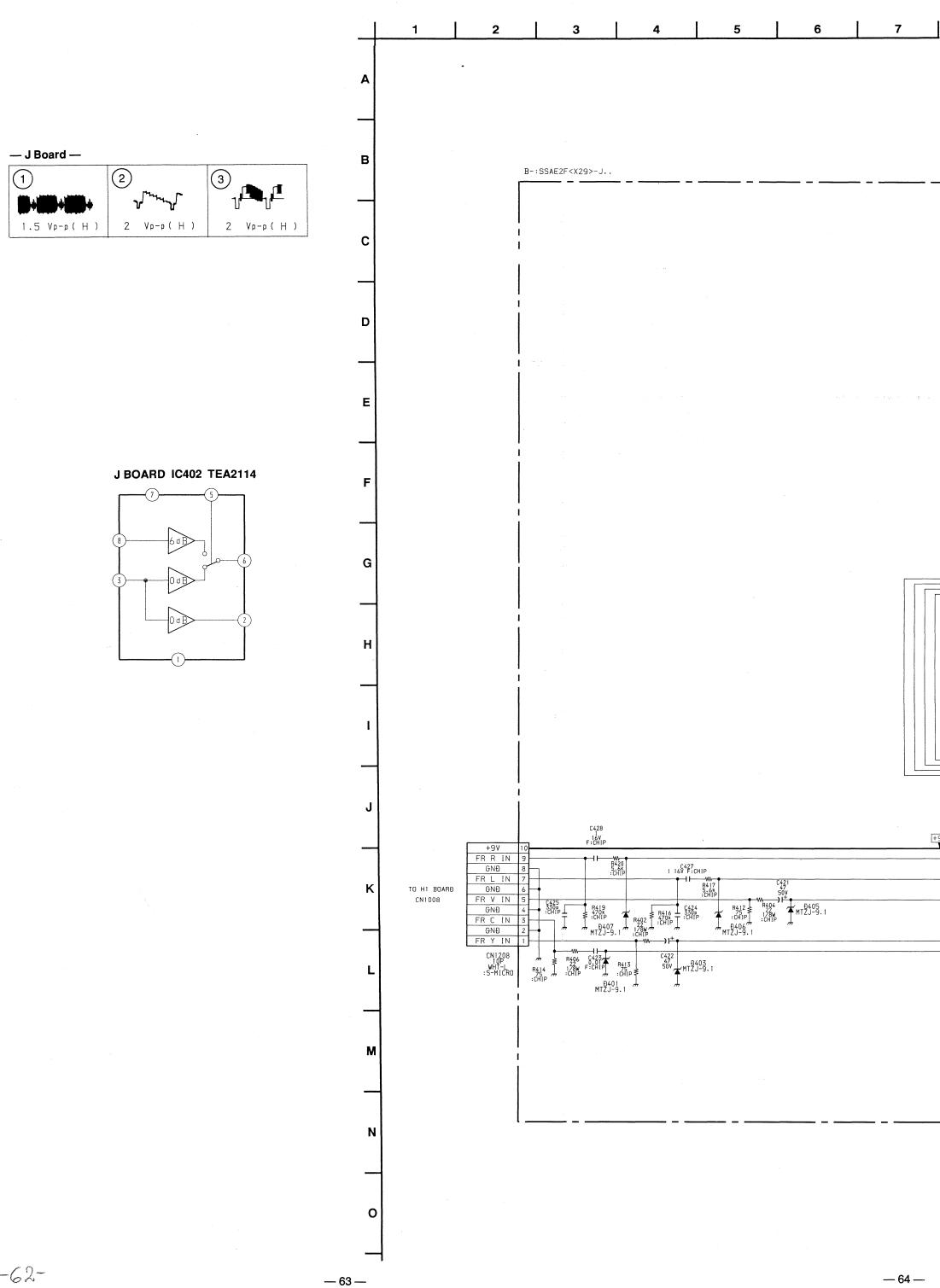


A BOARD IC681 SI3120CA



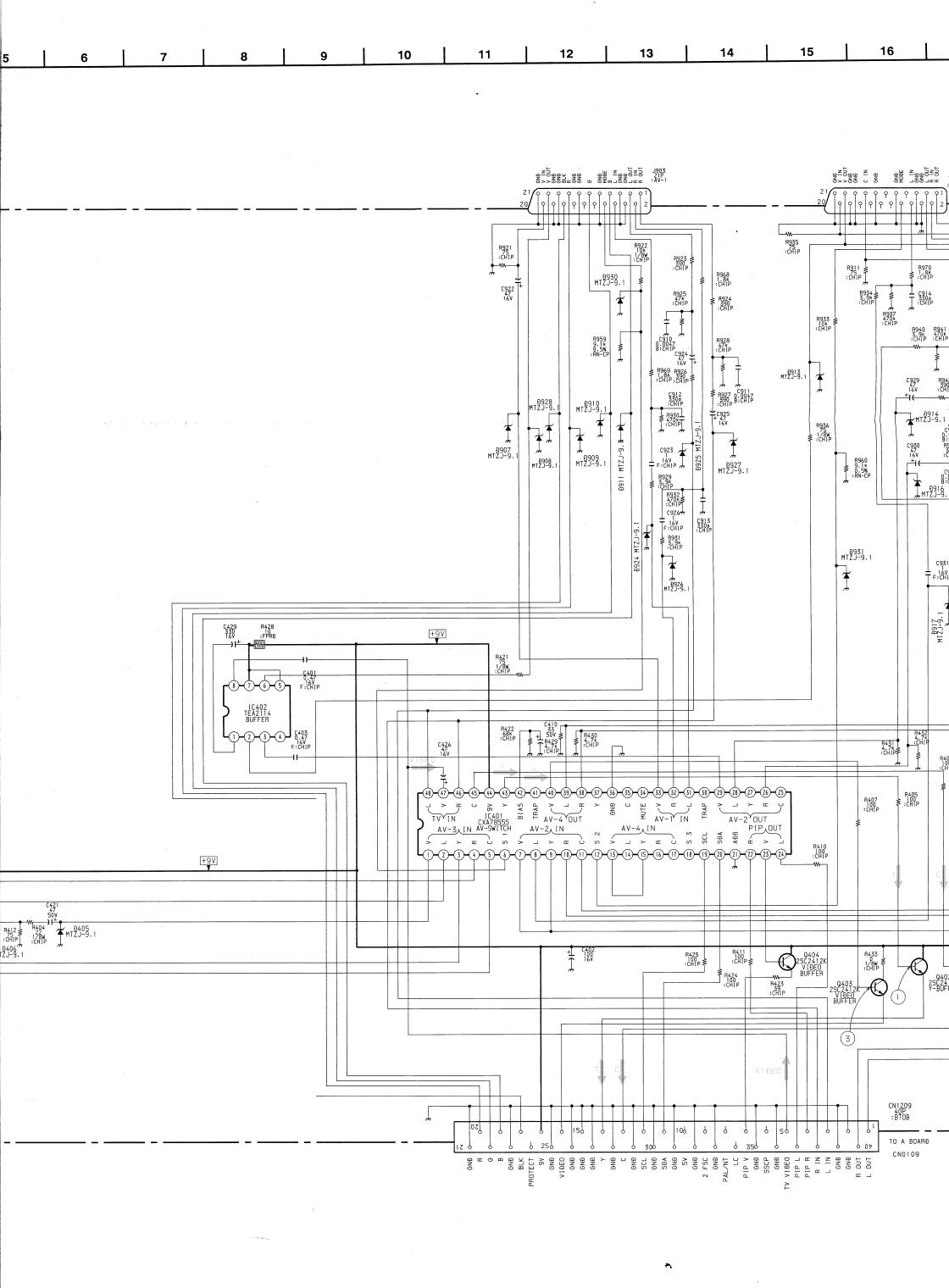
- A Board -

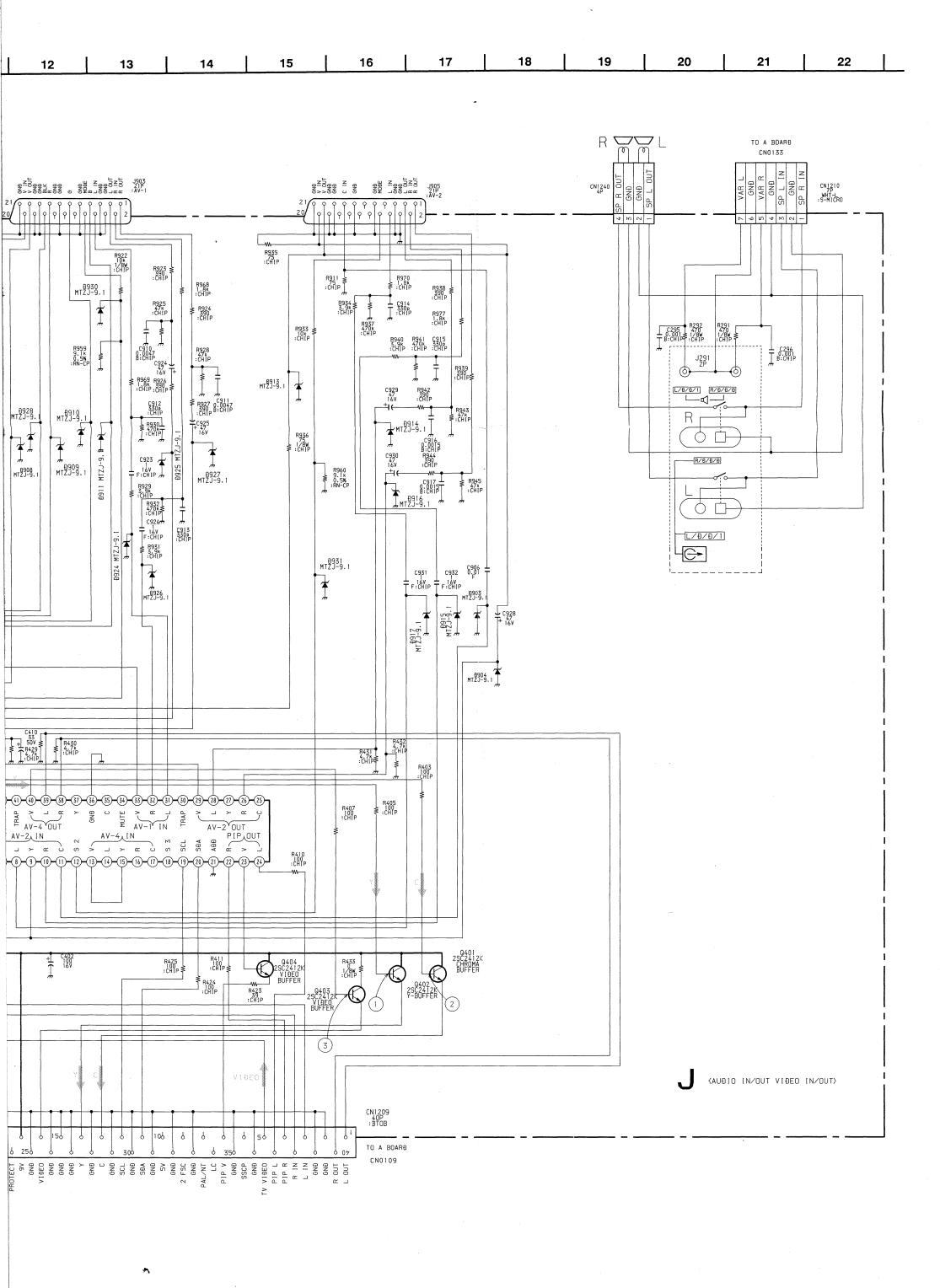




-62-

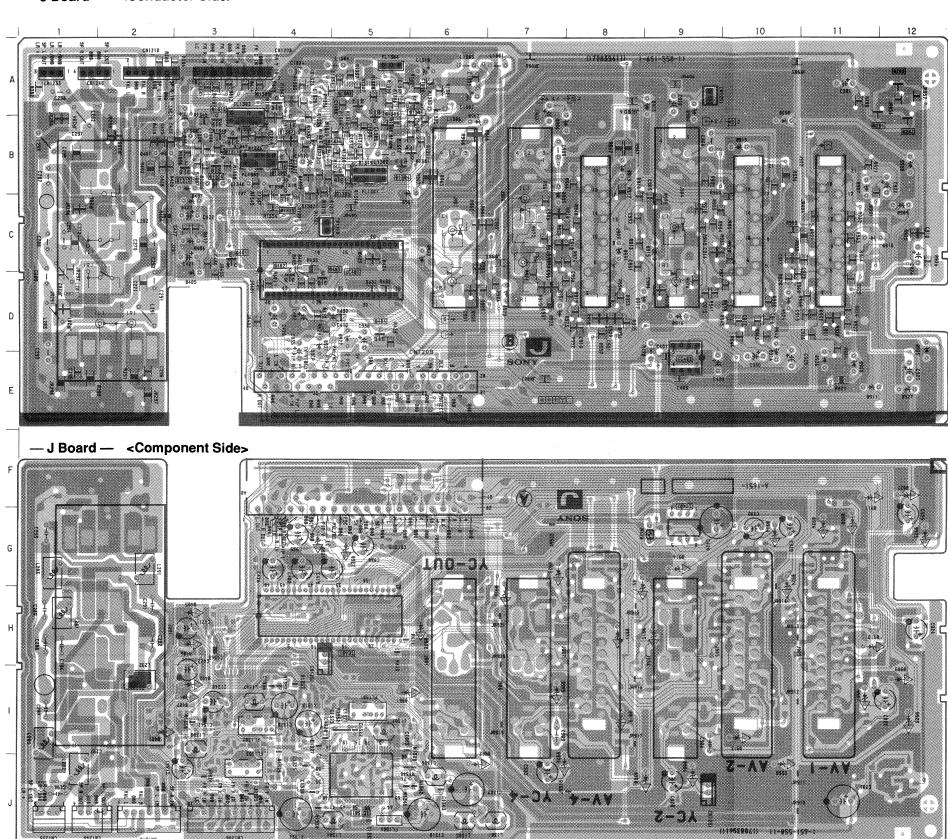
— 64 —







— J Board — <Conductor Side>



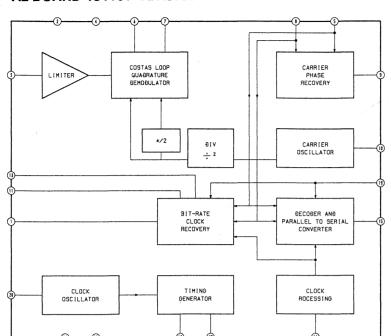
— J Board —

- Pattern from the side which enables seeing.
- : Pattern of the rear side.

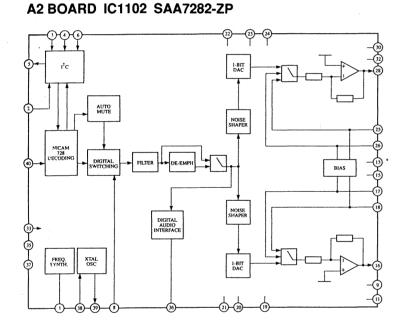
KV-X299

KV-X299

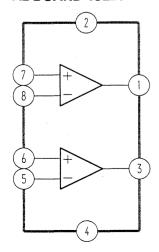
A2 BOARD IC1101 TDA8732



.......



A2 BOARD IC2202 TDA2822M



[NICAM, AUDIO PROCESSING]

- A2 Board -

- A2 Board -

IC

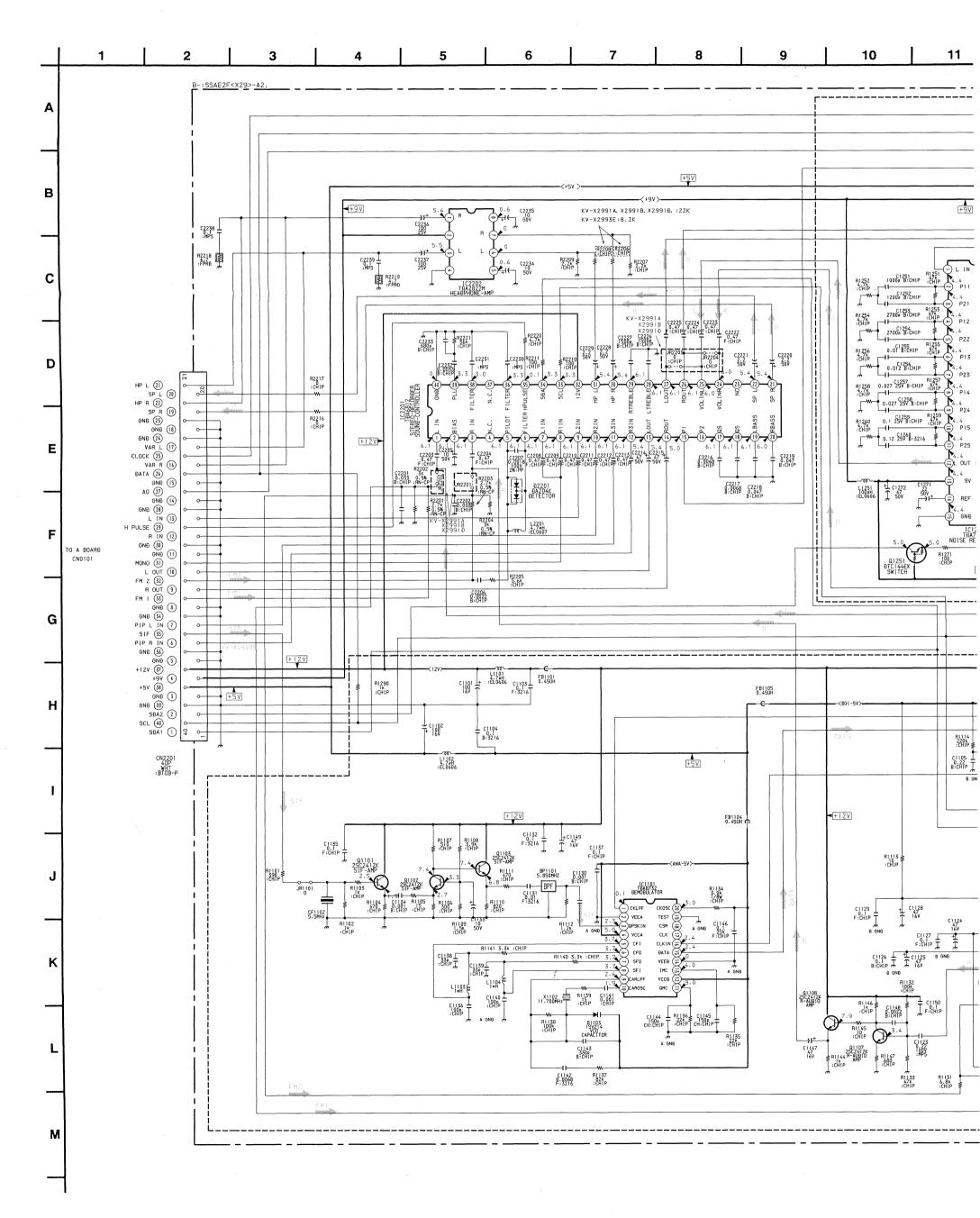
IC1101 C-2 IC1102 B-2 IC1201 B-6 IC1202 B-5 IC1203 A-5 IC1204 A-6 IC1251 B-4 IC2201 C-5 IC2202 E-6

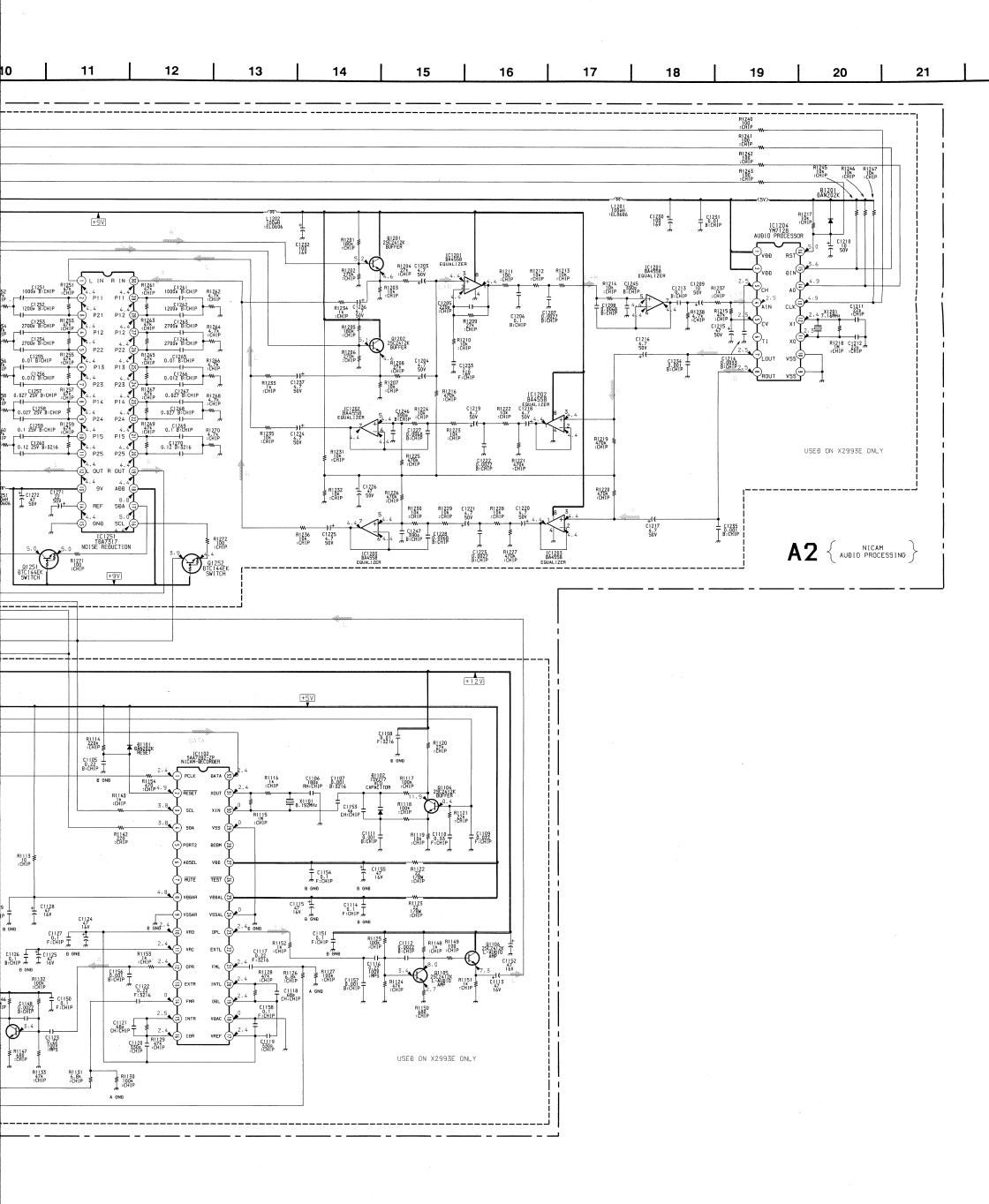
TRANSISTOR

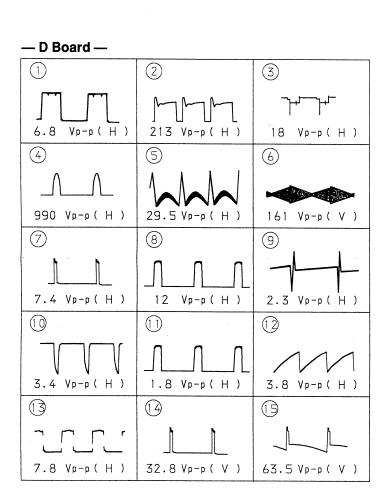
Q1101 E-1 Q1102 D-1 Q1103 D-2 Q1104 C-3

rd				1	2	3	4	5	6	7
	Q1105 Q1106 Q1107 Q1108 Q1201 Q1202 Q1251 Q1252	C-4 C-1 C-2 B-5 B-5 B-3	А		559-11 (17083)	9411) C1270	11 XA4	125+ C1225- C14(RIZIS X1201 X1201	
4	DIC	DE		工工	THE T				2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	T ⁽¹²³⁾
R	D1101 D1102 D1103 D1201 D2201	B-3 D-1 A-6	В	0 101602	R1152 B11611 R		C1857 C1295 C1257 C1237	1122	C3 23 9 9 5 6 12 14 1 7 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(1230 (1226) (1226) (1231) (1324) (1324) (1237) (1237)
			С	C1154 Terras Class 51724 C1123 T C G1123	1 135 4 (114) E	01111 2 1114 01111 2 1114 01111 2 1114 01114 2 1114 01114 2 1114	21 152 21 50 50 50 50 50 50 50 50 50 50 50 50 50		C2233 WIRTH HIZDS 1123 C2230 C2231 C2232 C2232 C2232 C2232 C2232 C2232 C2232 C2232 C2232 C2232 C2232 C2232	C2221 1+0
			D	A K CONTROL OF THE CO	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	R2210	20 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	C2214 HOLE C2215	RZ205	
			Ε	THE STATE OF	91102	2 9 2 35 0 35 0 3 35 0 3 3 5 0 3 5 0 5 0	118 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12 25 9 9 5 21 2 2 3 3 5 5	A2216 A2219	#2209 #74455

- Pattern from the side which enables seeing.
- : Pattern of the rear side.







В

C

D

E

G

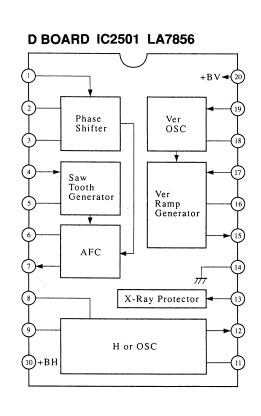
K

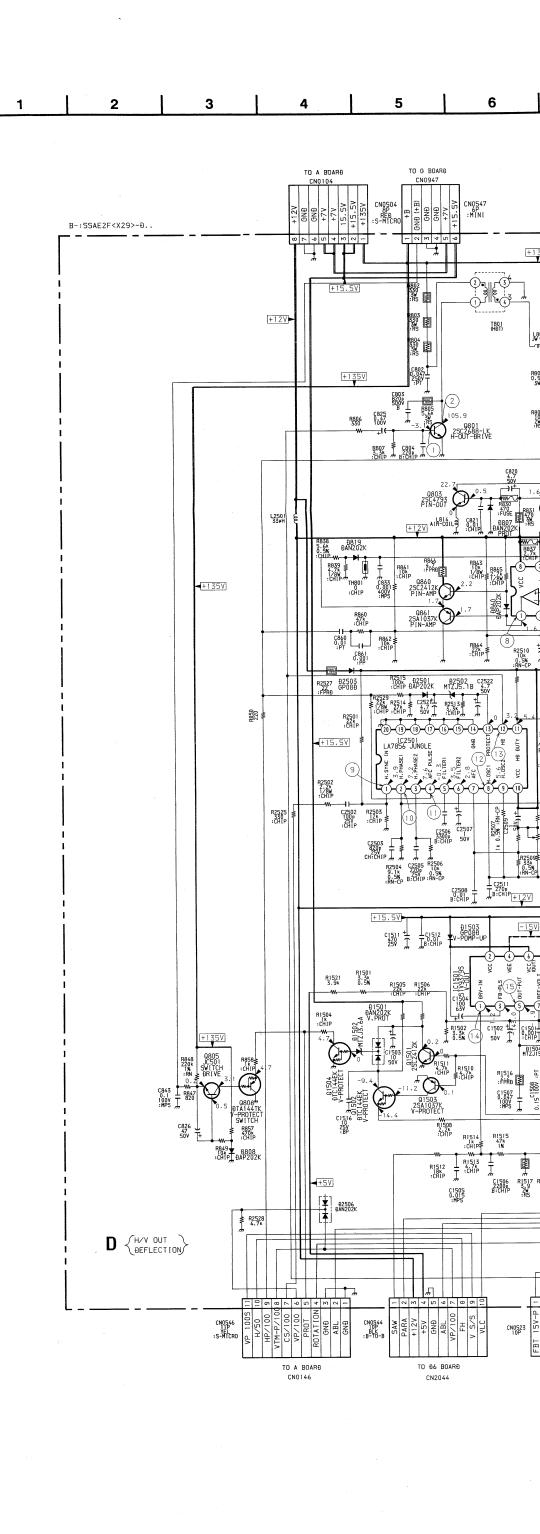
L

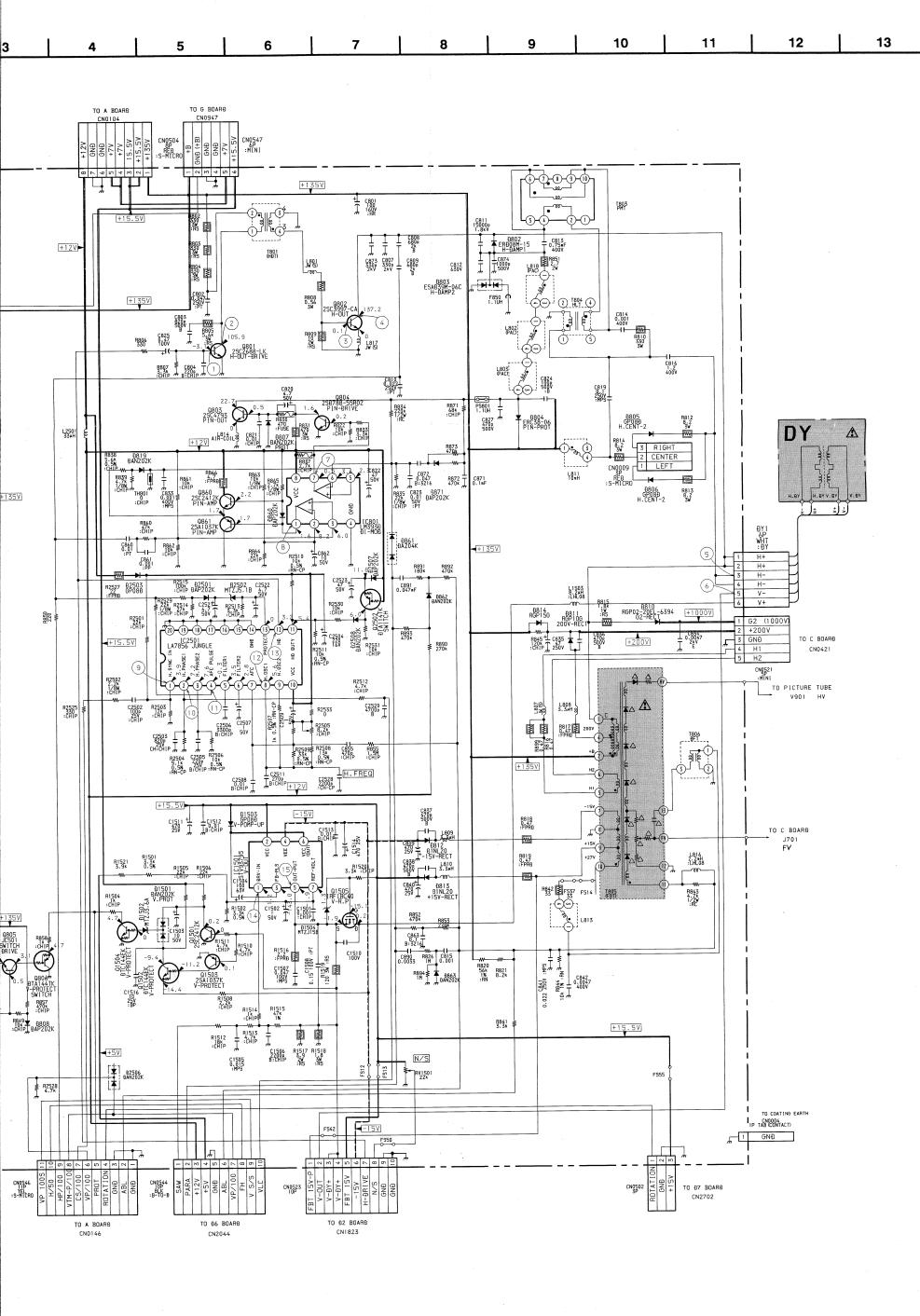
M

N

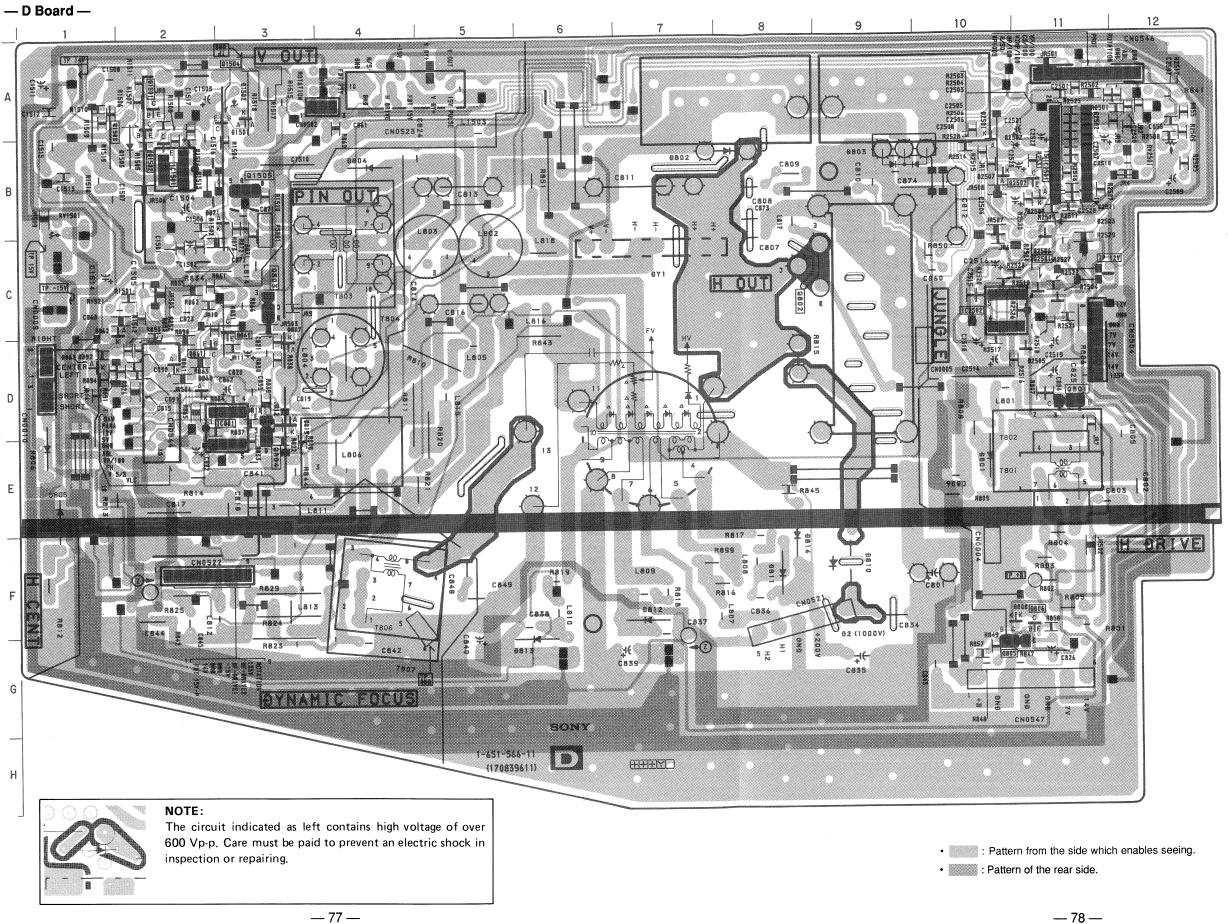
0











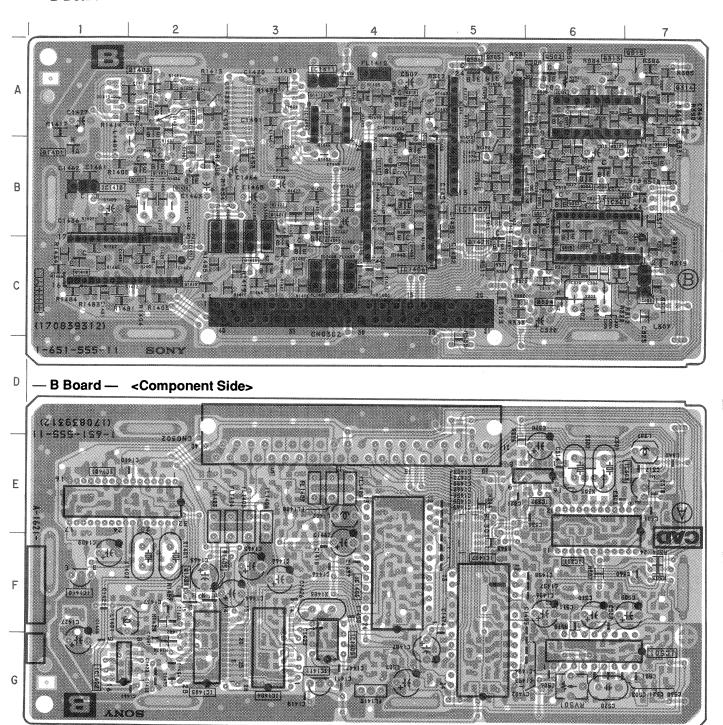
IC		D806 E-1		
IC801 IC1501 IC2501	D-3 B-2 B-11	D808 D810 D811 D812	F-10 F-9 F-8 F-7	
TRANSI	STOR	D813 D814	G-6 F-8	
Q801 Q802 Q803 Q804 Q805 Q806 Q860 Q861 Q1501 Q1502 Q1503 Q1504 Q1505 Q2502	D-11 C-8 C-3 E-3 G-10 F-11 C-3 D-2 A-2 B-2 A-2 A-3 B-3 B-11	D819 D860 D861 D862 D863 D871 D1501 D1502 D1503 D2501 D2502 D2503 D2507 D2508	D-3 D-2 D-2 C-1 D-1 B-2 A-3 A-3 B-2 A-10 B-11 B-11 B-11	
DIODE		VARIABLE		
D802	B-8	RESIS	TOR	
D803 D804 D805	B-9 B-4 E-1	RV2501 RV1501		

PICTURE IN PICTURE CHROMA DECODER

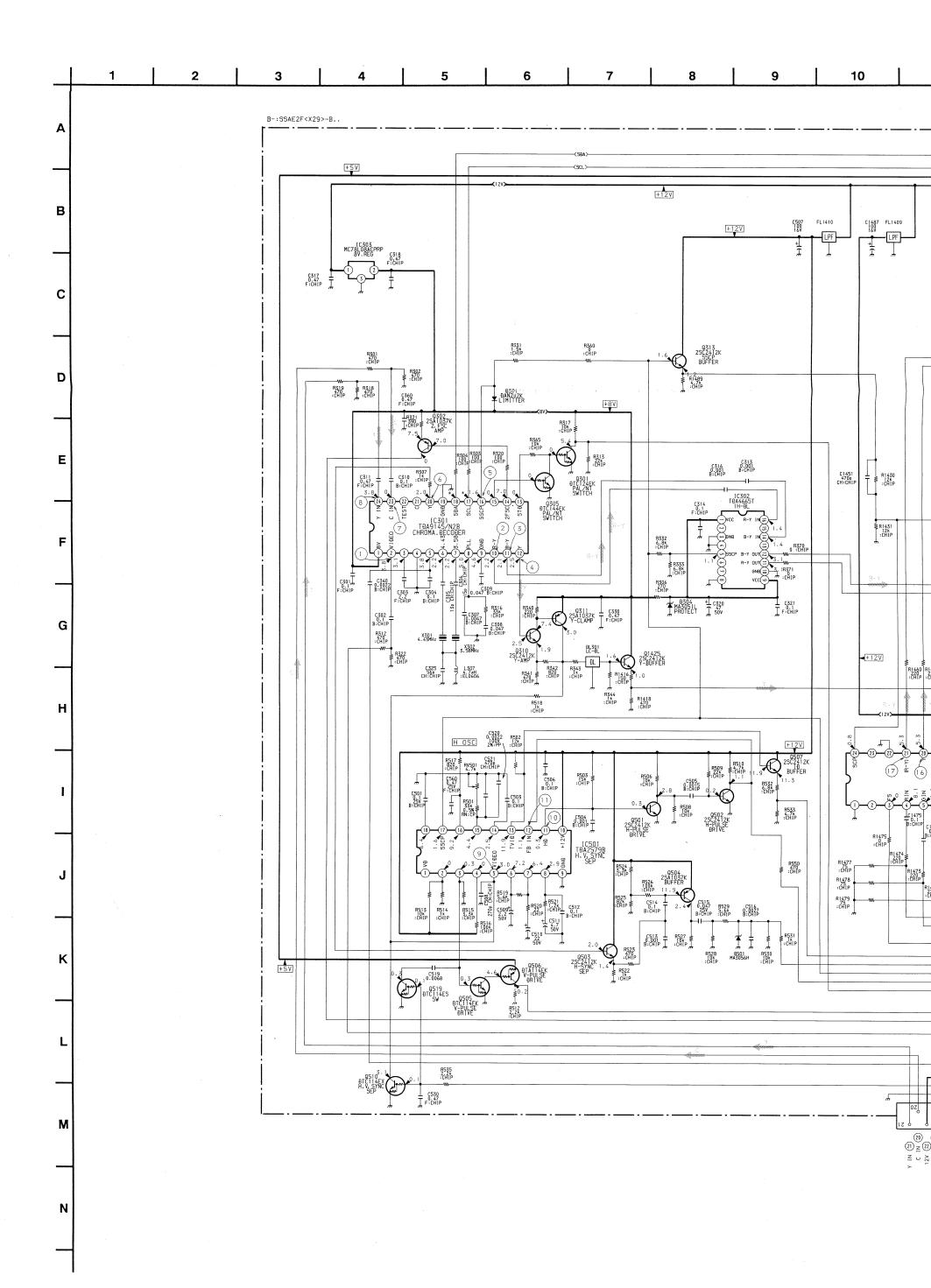
KV-X299

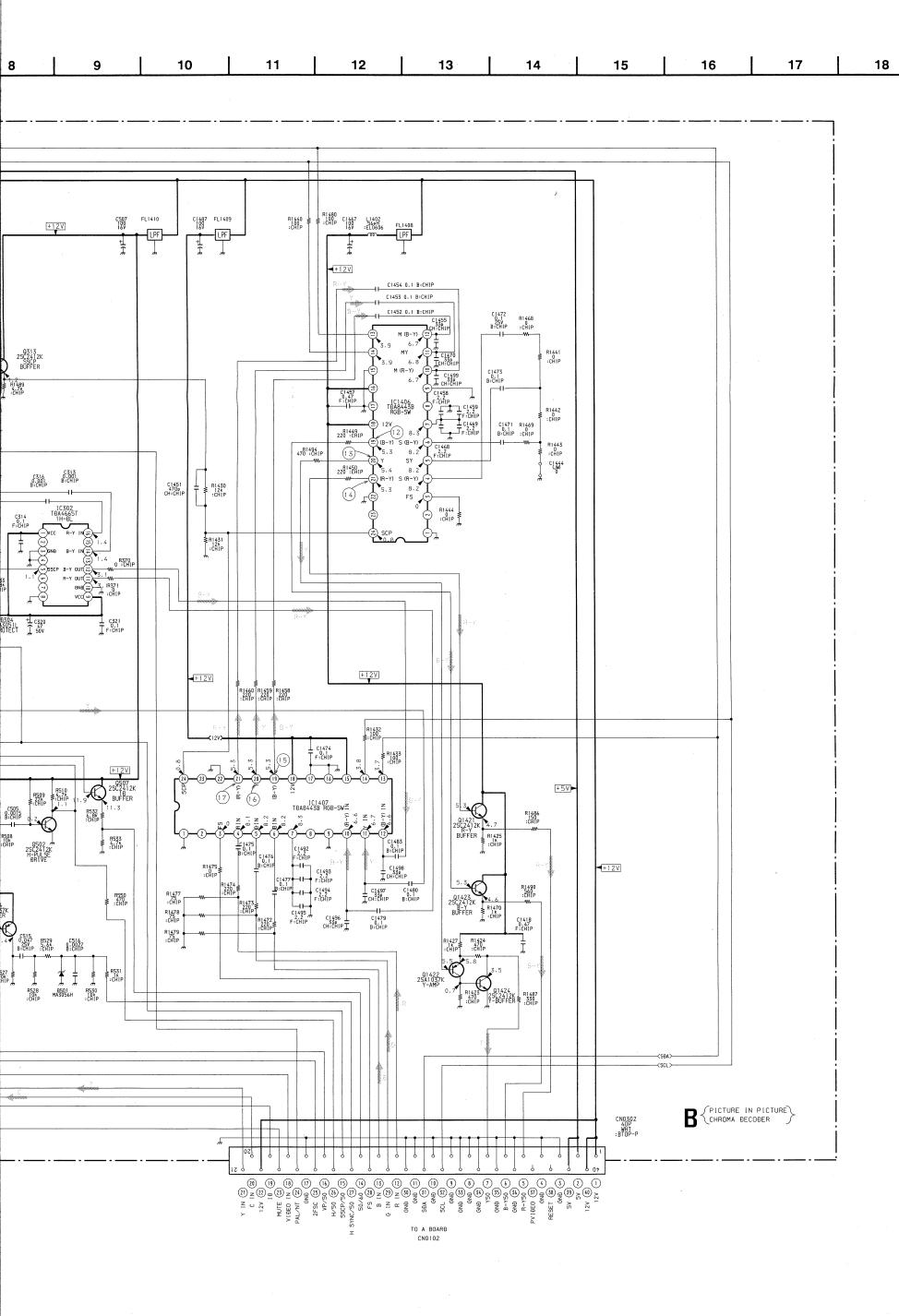
- B Board - < Conductor Side>

<u> — B Board — </u>				
IC		Q506 Q507	A-5 A-6	
IC301 IC302 IC303 IC501 IC1406 IC1407	B-6 E-6 C-7 A-6 B-4 B-5	Q510 Q1421 Q1422 Q1423 Q1424 Q1425		
TRANSIS	TRANSISTOR		DIODE	
Q301	,			
Q302 Q305	B-6 B-6 B-6	D301 D304 D501	B-7 C-6 B-6	
Q302	B-6	D304	C-6 B-6	



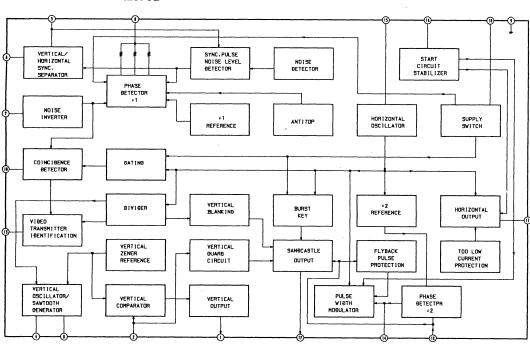
- Pattern from the side which enables seeing.
- : Pattern of the rear side.



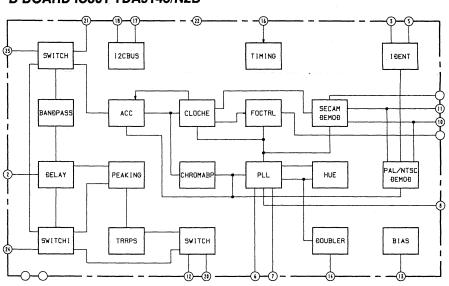


19

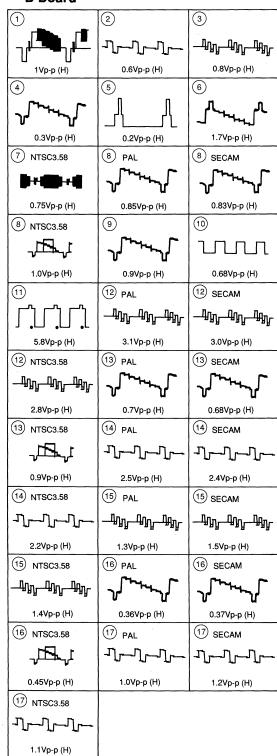
B BOARD IC501 TDA2579B



B BOARD IC301 TDA9145/N2B



— B Board —



18

19

20

21

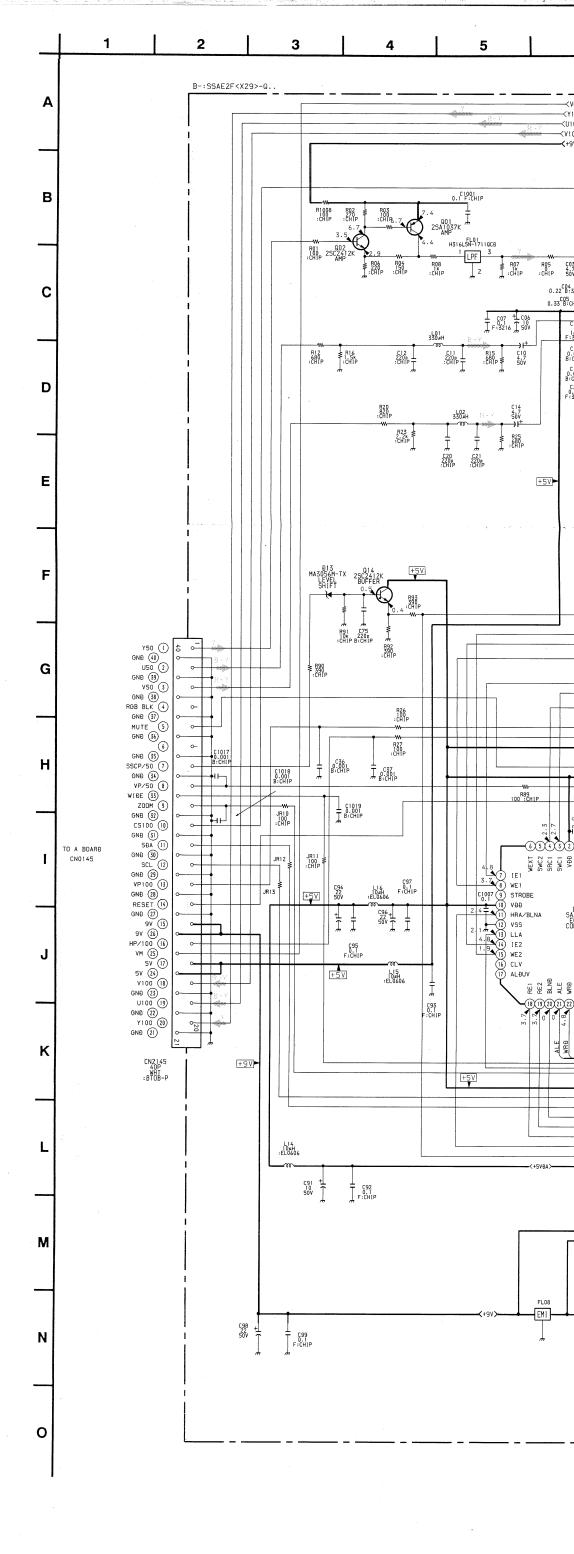
- Q Board —

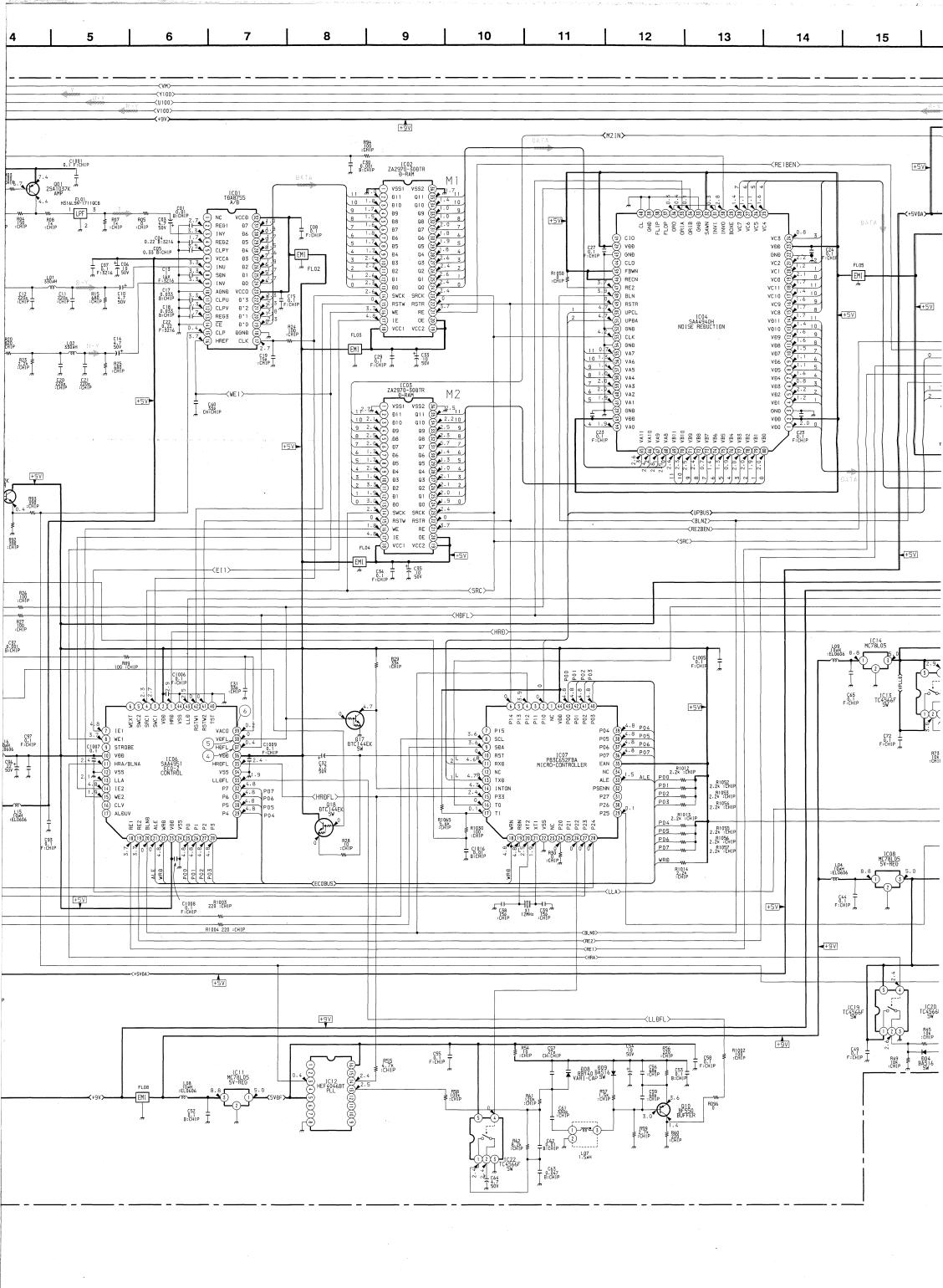
1 2 3

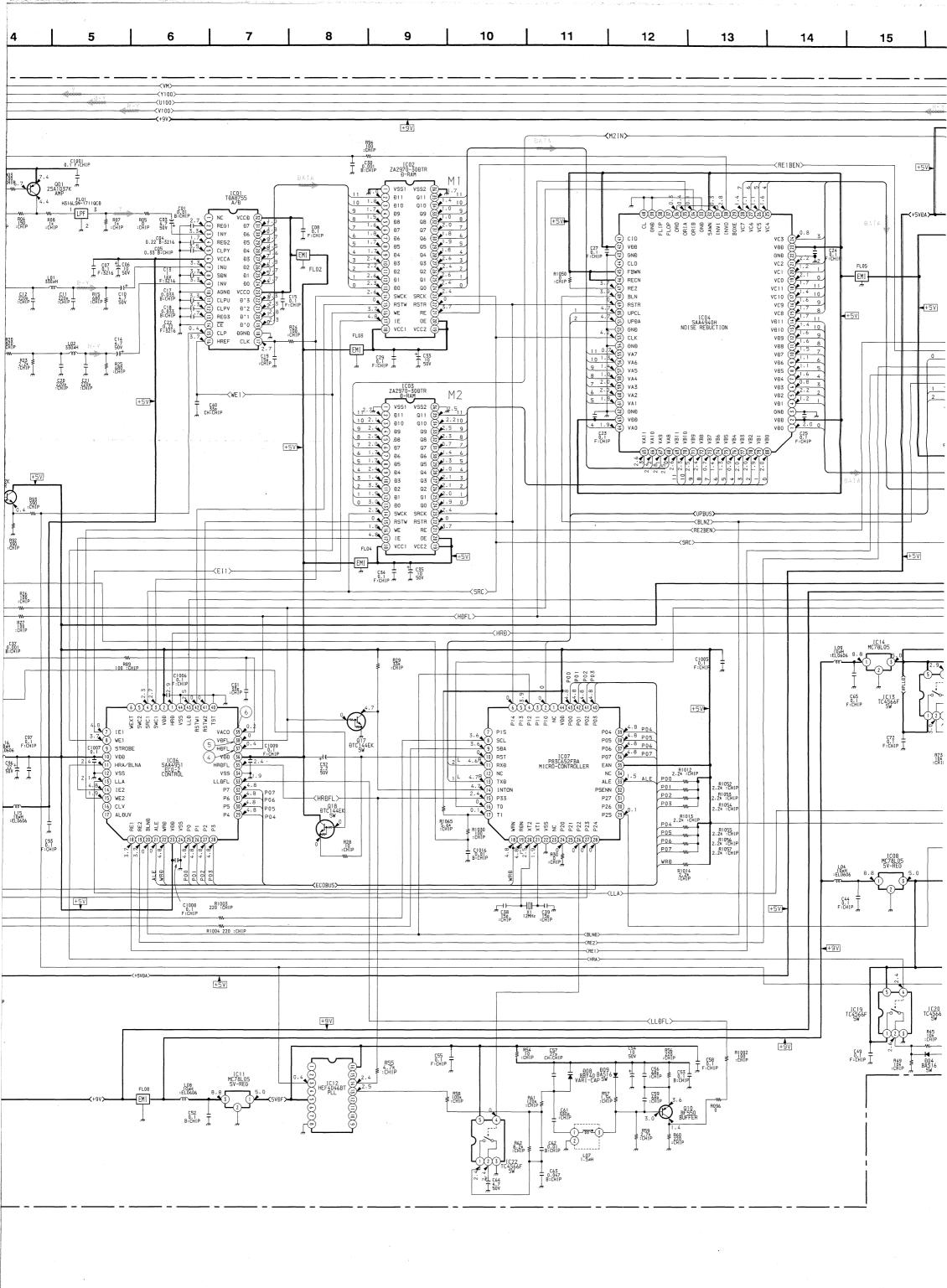
1.3 Vp-p(H) 1.7 Vp-p(H) 1.1 Vp-p(H)

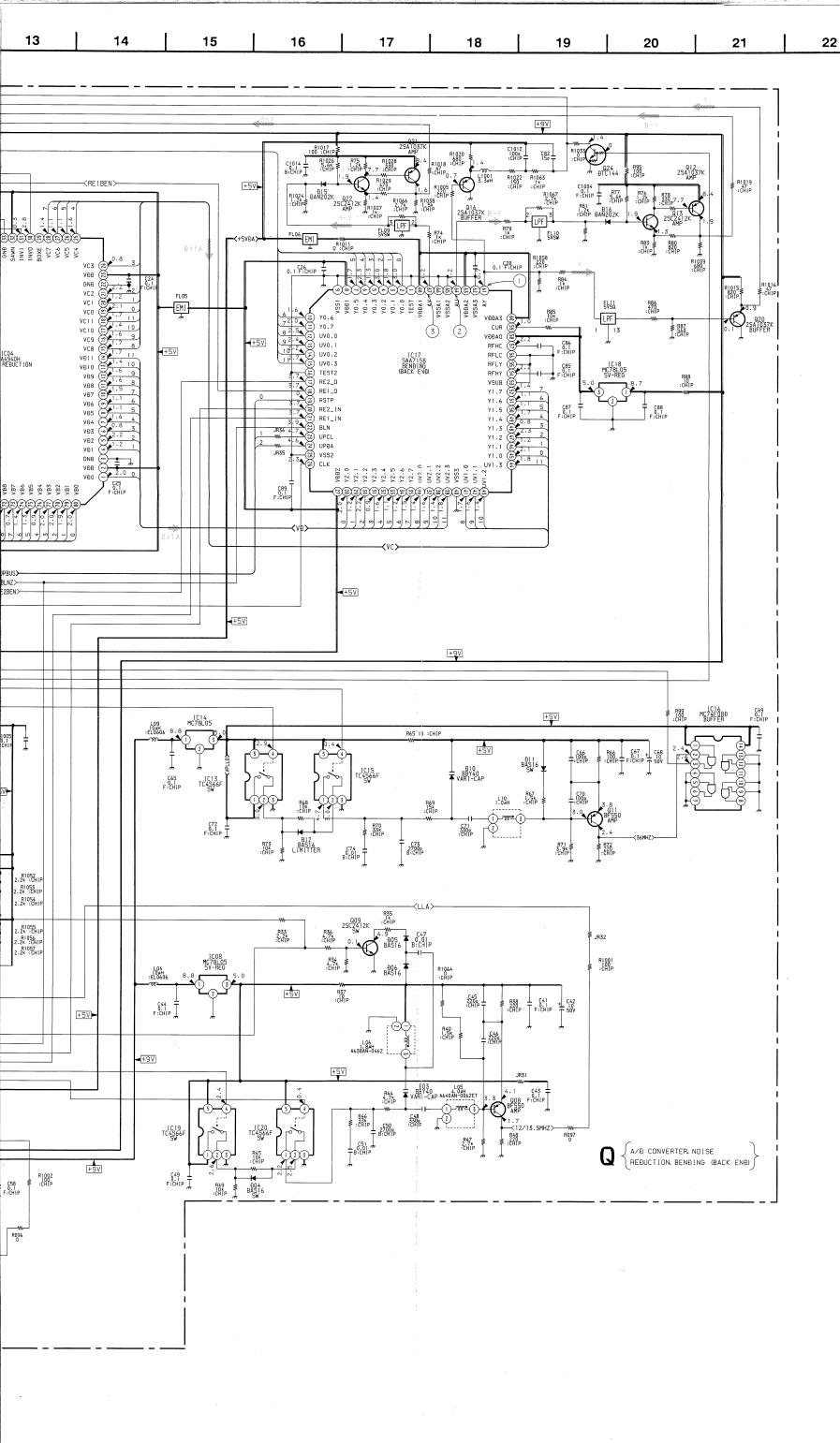
4 5 6

4.7 Vp-p(H) 4.9 Vp-p(V) 3.8 Vp-p(V)



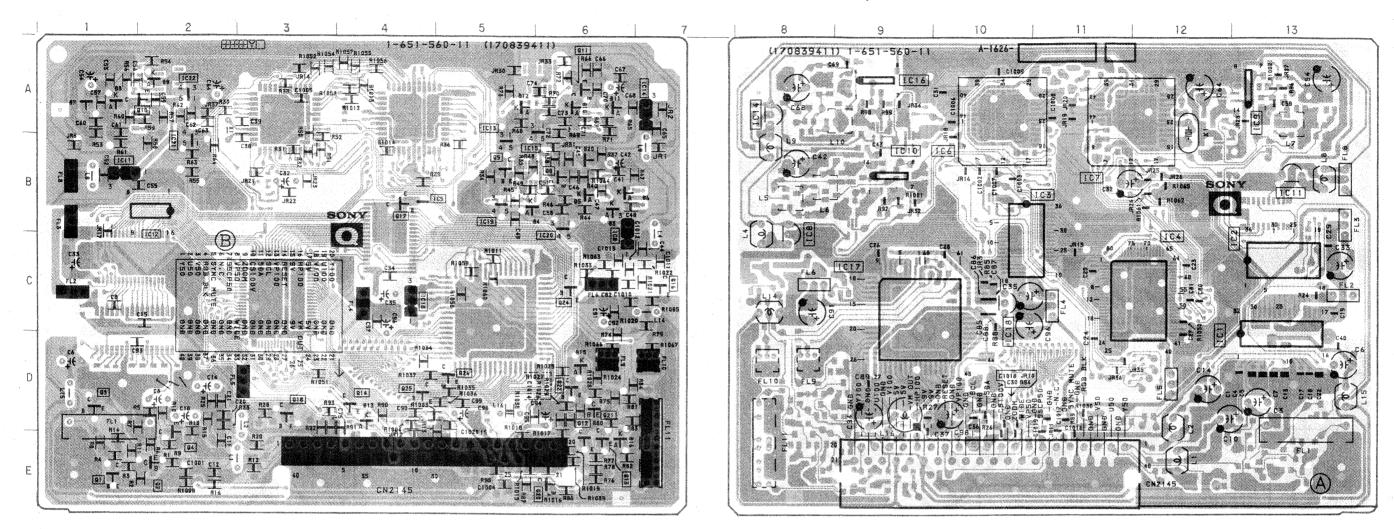






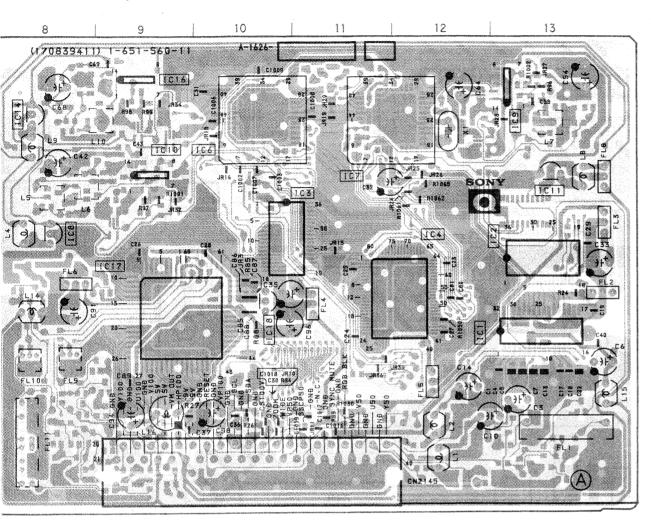
- Q Board - < Conductor Side>

- Q Board - < Component Side>



- · Pattern from the side which enables seeing.
- : Pattern of the rear side.

Q Board — <Component Side>



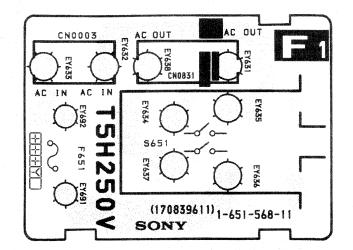
- Pattern from the side which enables seeing.
- : Pattern of the rear side.

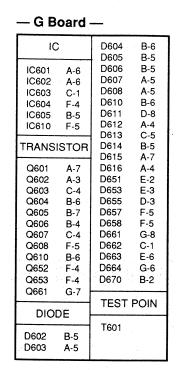
— Q Board —

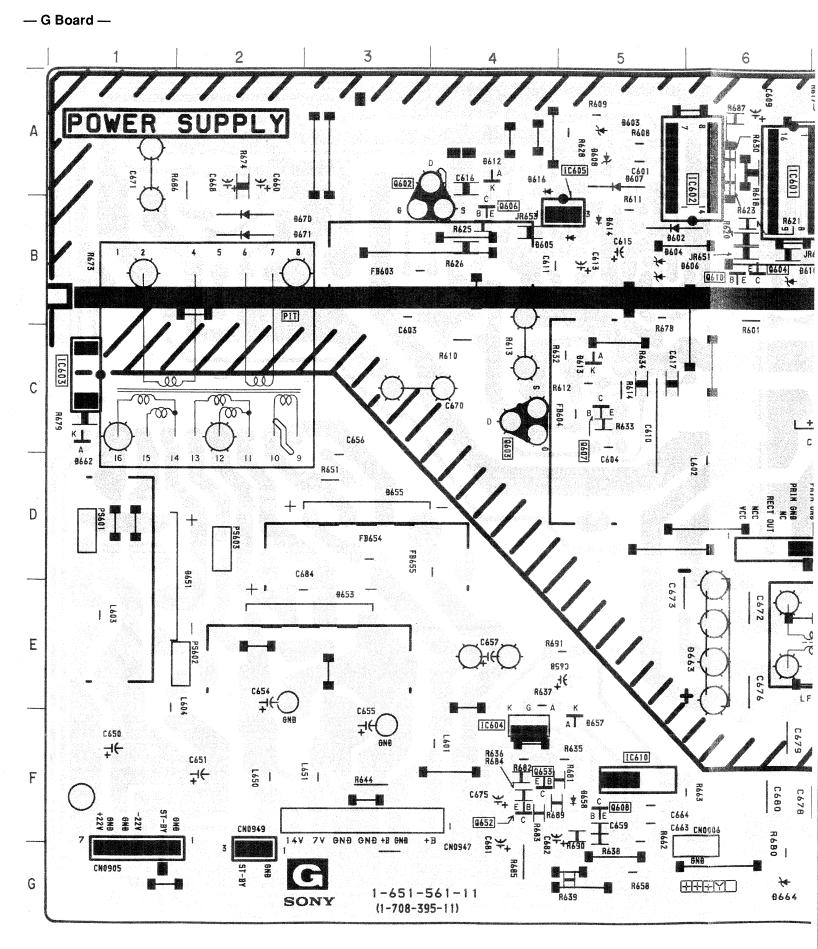
IC		Q8 Q9	B-6 B-5
IC1 IC2 IC3 IC4 IC6 IC7 IC8 IC9 IC10 IC11	C-13 C-13 B-10 C-12 A-10 A-12 B-6 A-13 B-9 B-1 B-2	Q10 A11 Q12 Q13 Q14 Q16 Q17 Q18 Q20 Q21 Q22	A-2 A-6 D-6 E-6 D-4 C-7 B-4 D-3 E-6 D-6
IC13 IC14	B-5 A-7	DIC	DDE
IC15 IC16 IC17 IC18 IC19 IC20 IC21 IC22	B-6 A-9 C-9 C-4 B-5 B-6 B-2 A-2	D3 D4 D5 D6 D8 D9 D10	B-6 B-5 B-6 B-6 A-1 A-2 A-6 A-6
TRANSISTOR		D12 D13	A-5 D-4
Q1 Q2	E-1 E-2	D15 D16	D-6 E-6

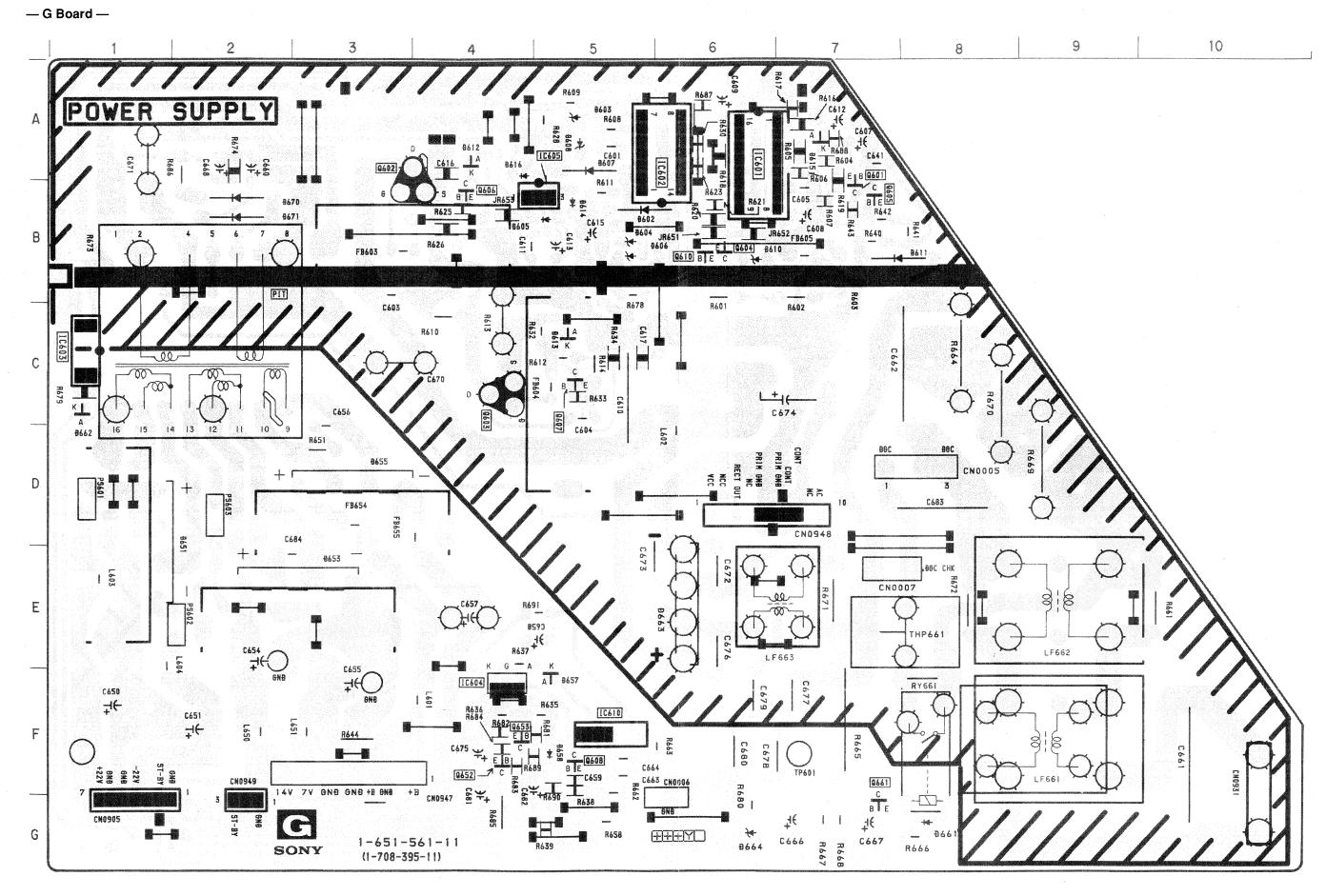


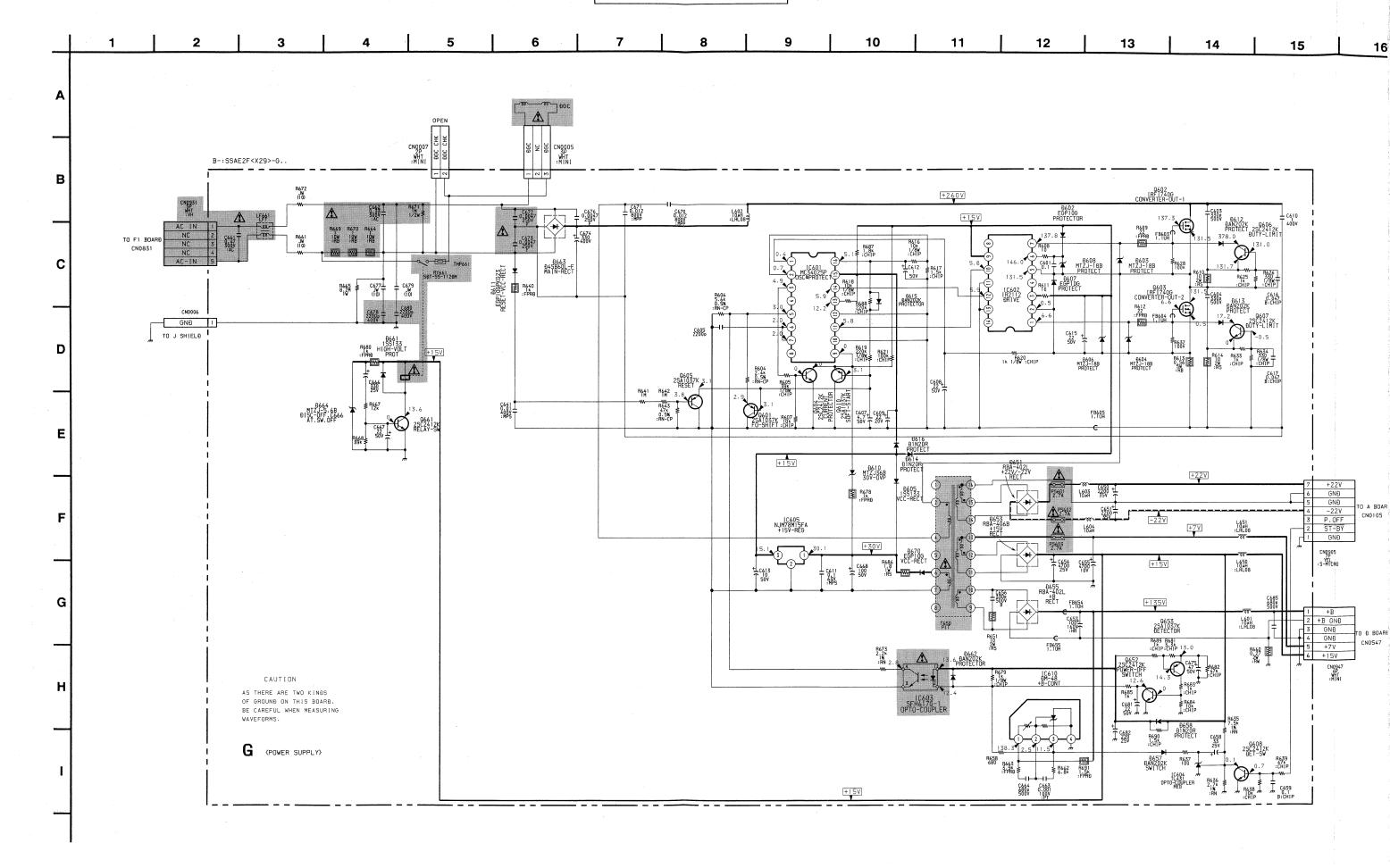
- F1 Board -



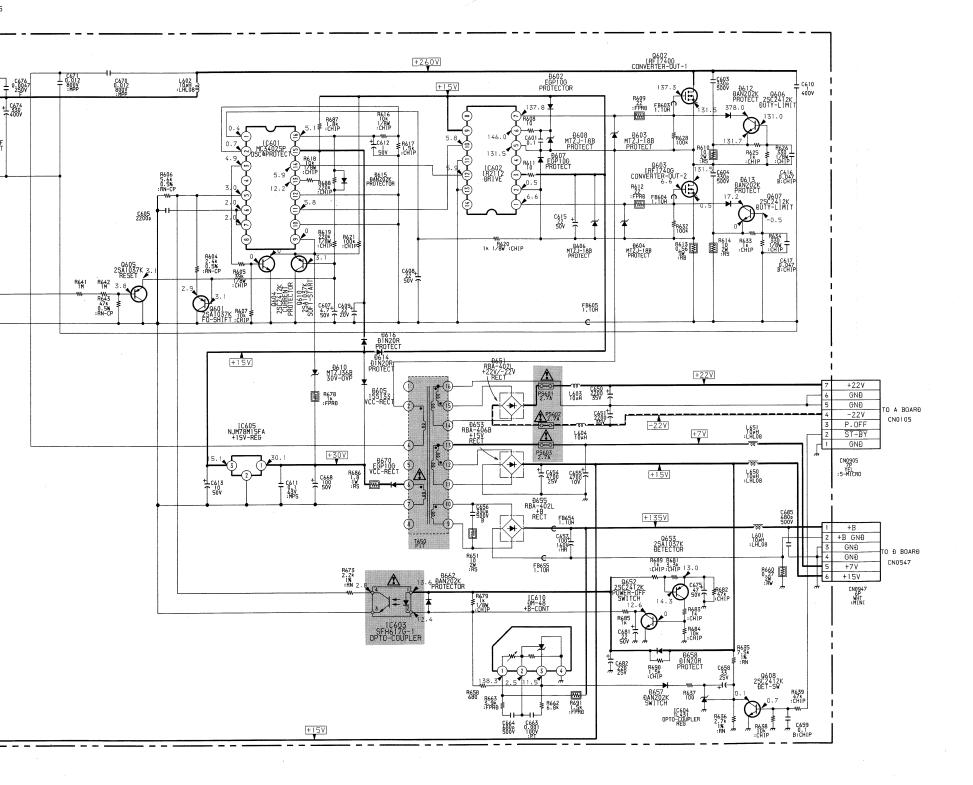


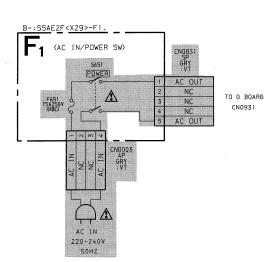


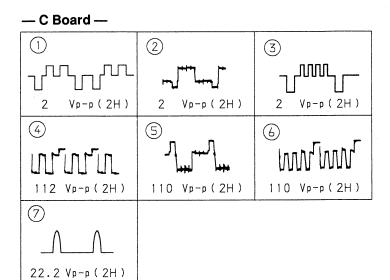




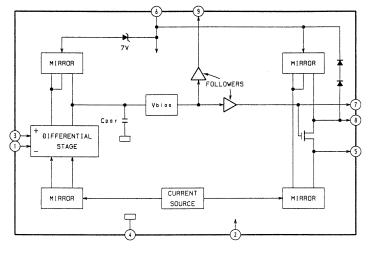
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	L

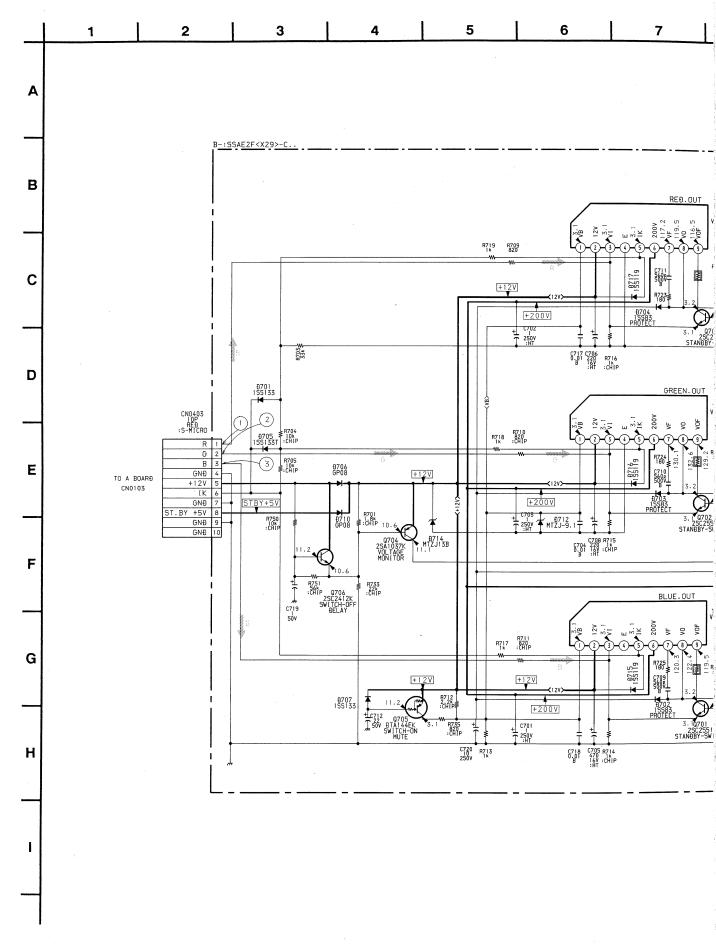




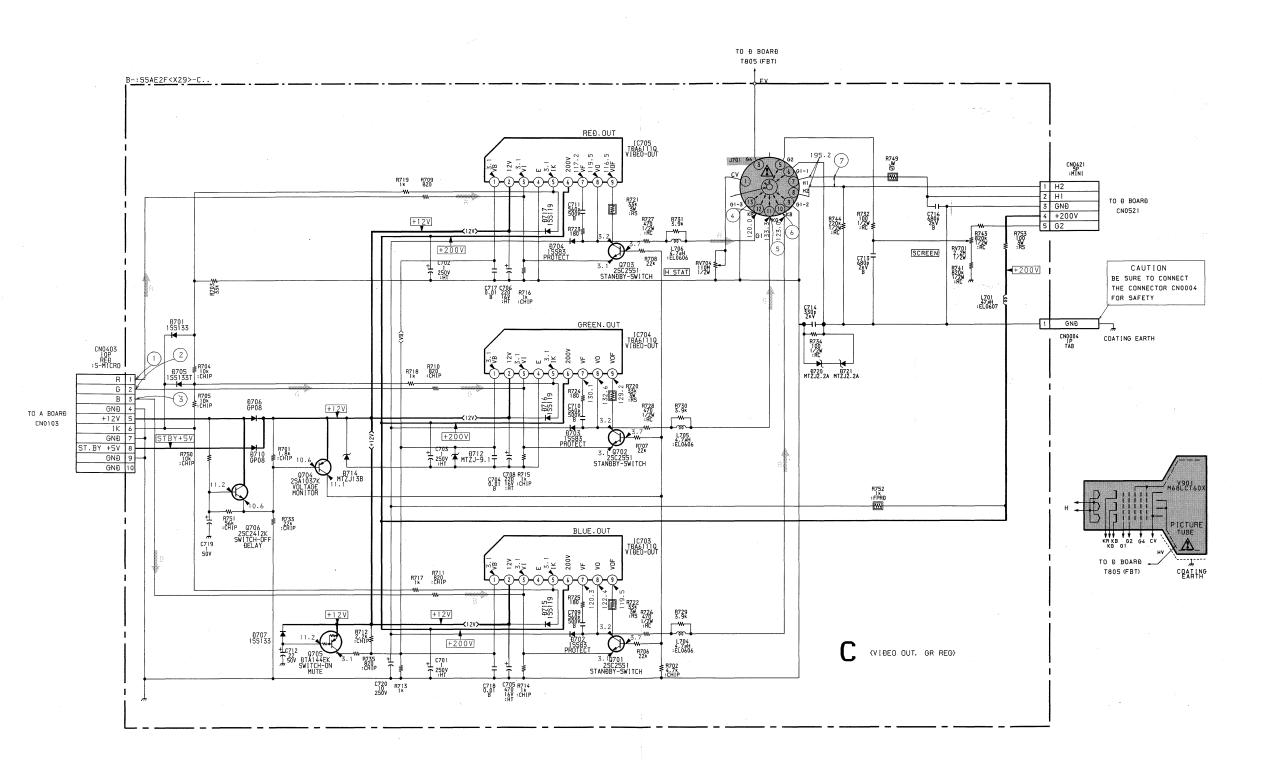


C BOARD IC703,704,705 TDA6111Q





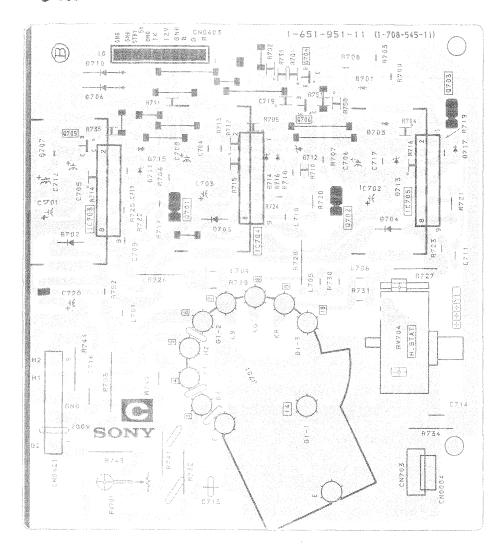
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15





[VIDEO OUT, G2 REG]

— C Board —

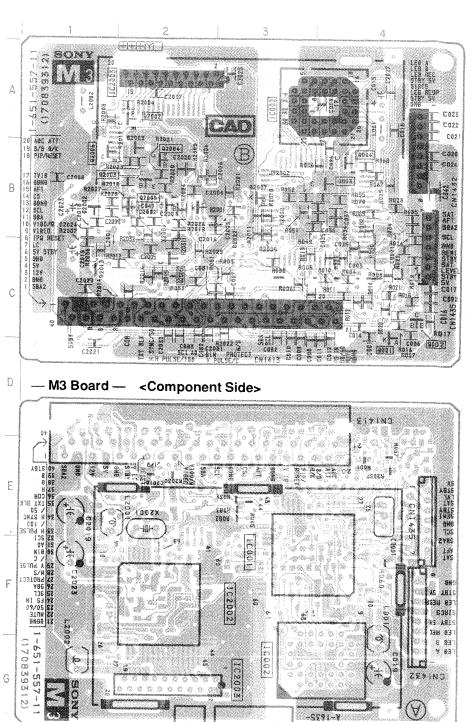


MEGATEXT MICRO CONTROLLER

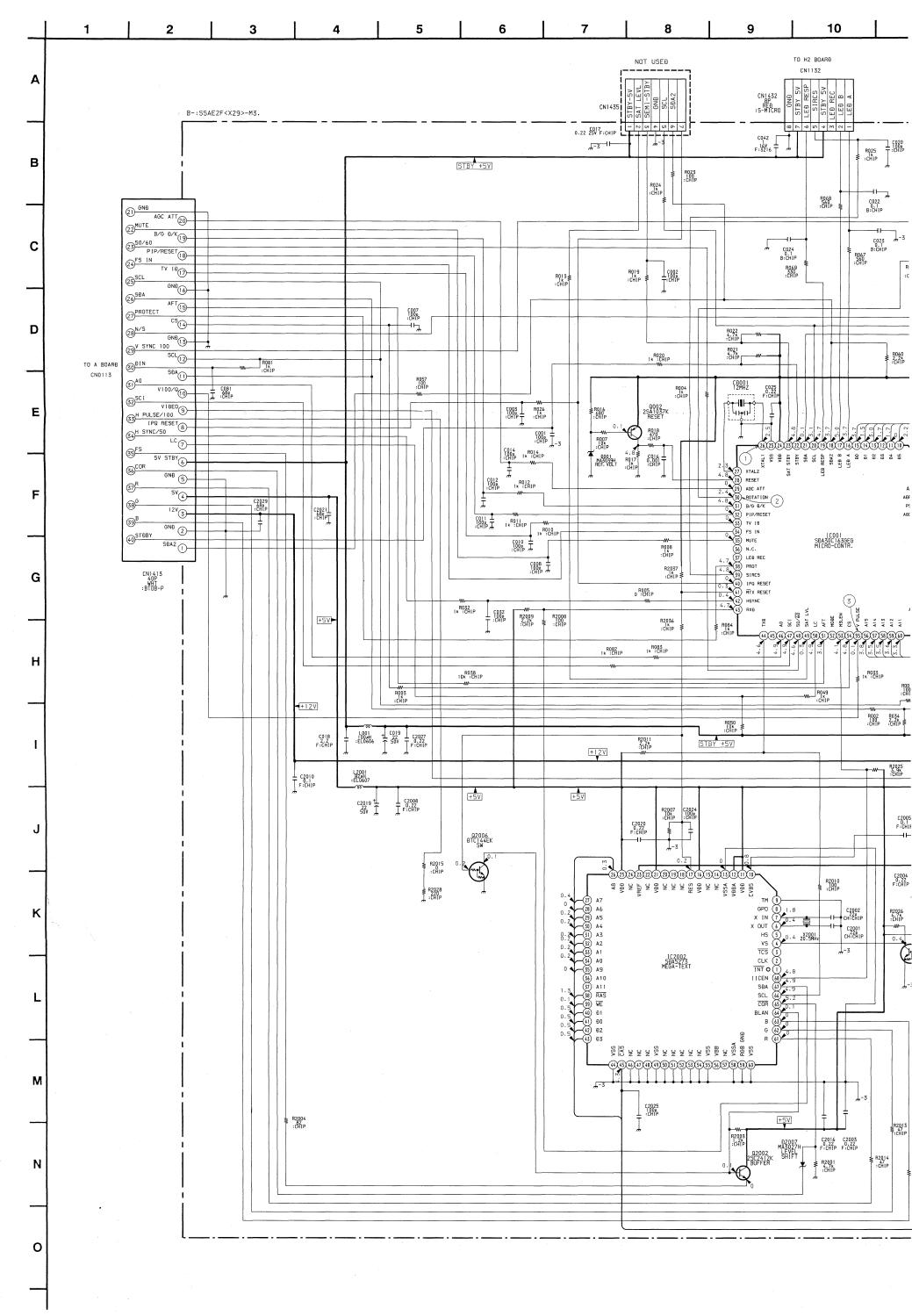
- M3 Board - «Conductor Side»

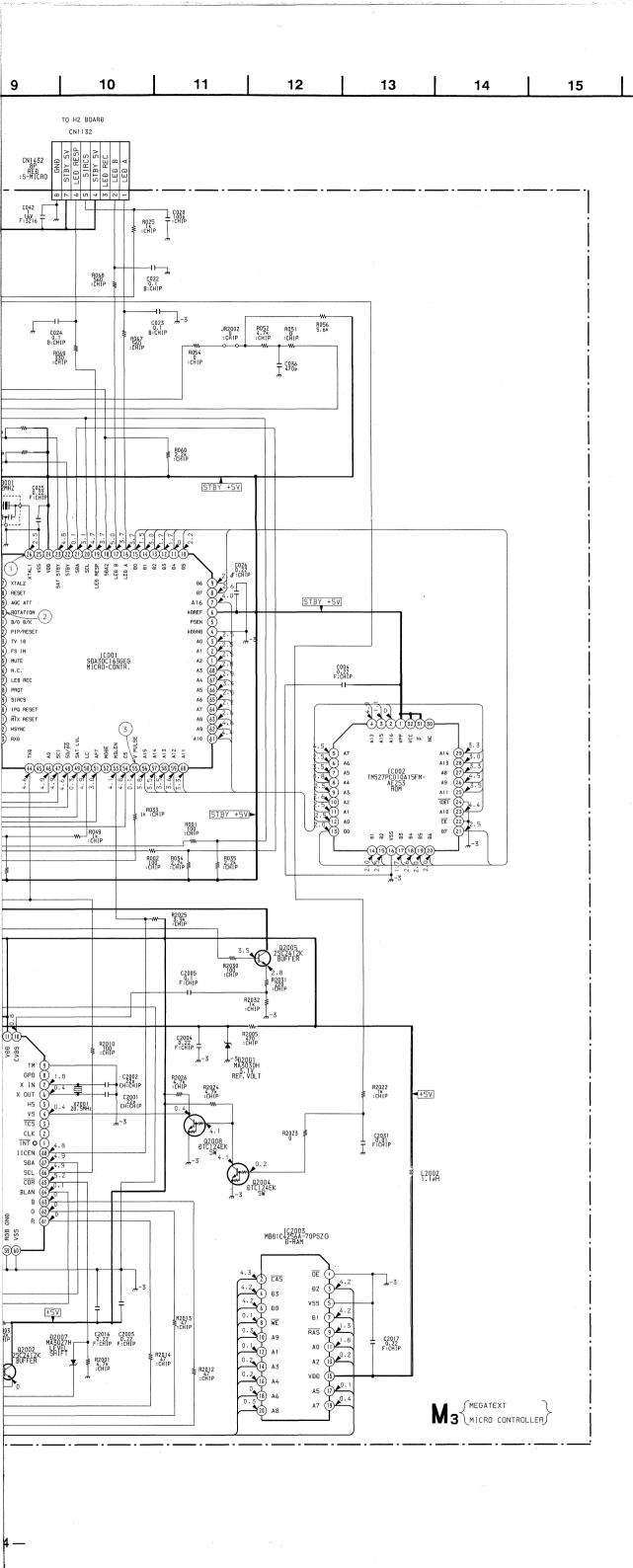
- M3 Board -

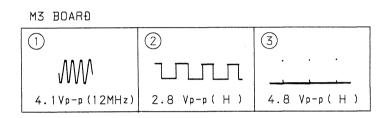
IC						
IC001 IC002 IC2002 IC2003	G-3 A-3					
TRANSISTOR						
Q2006	C-4 A-2 B-2 C-2 B-1 B-2					
DIO	DE					
D001 D2001 D2007	D-4 B-2 B-3					



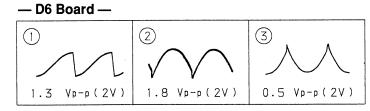
• : Pattern of the rear side.

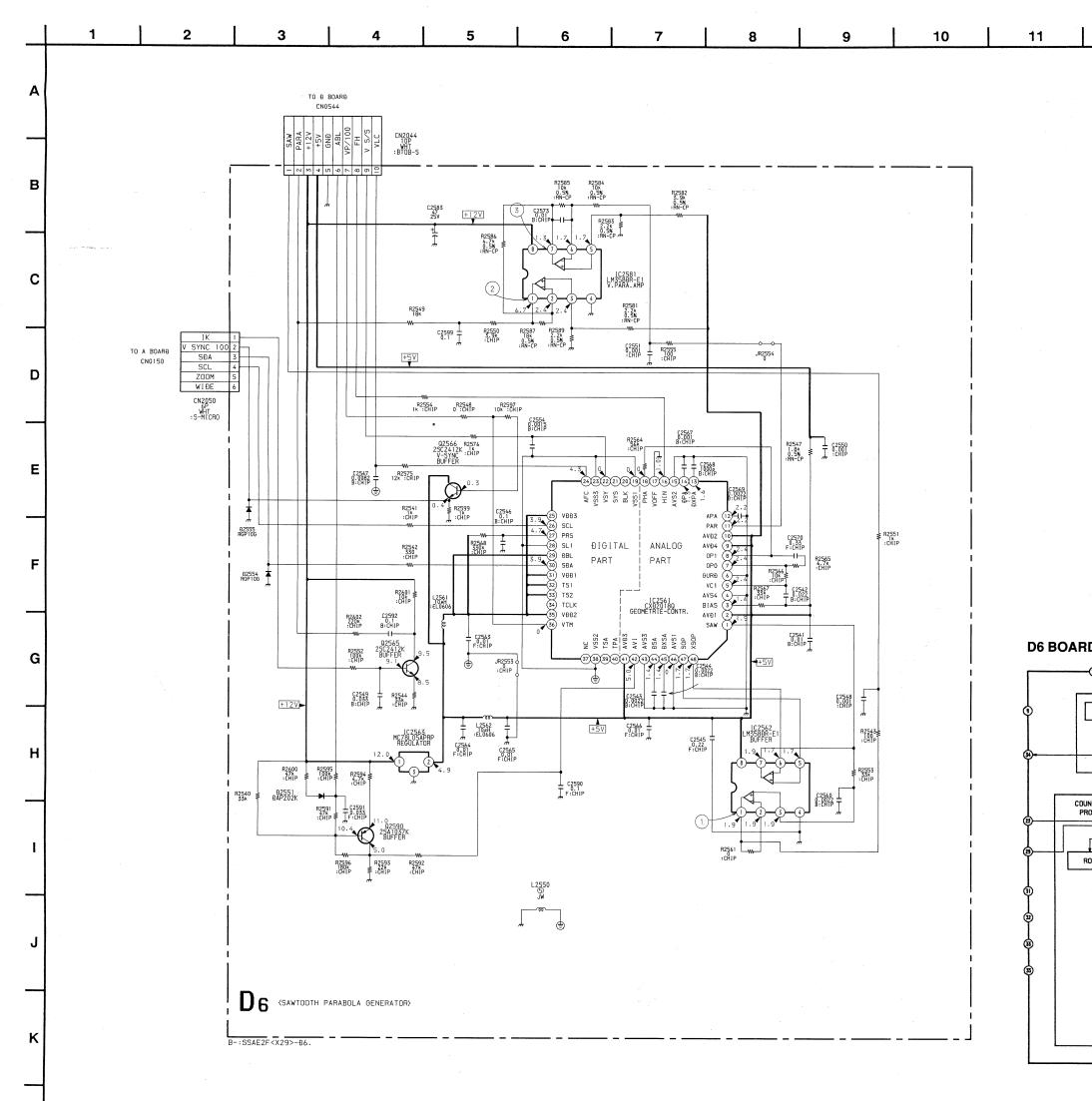




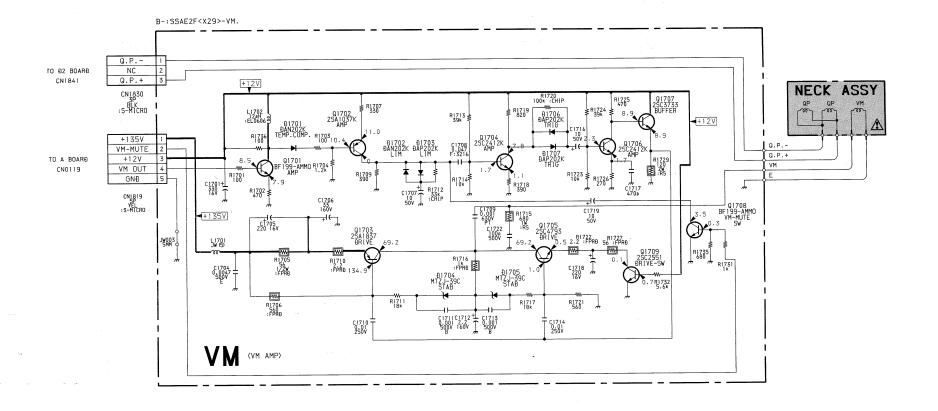


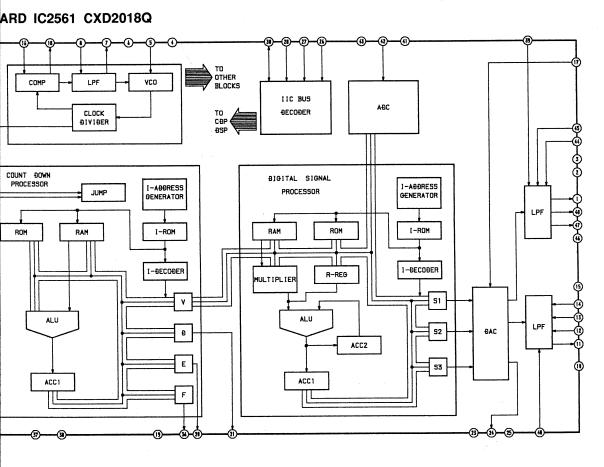
16





12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |

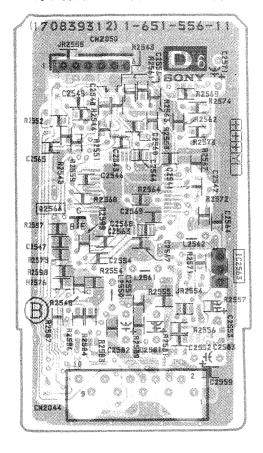




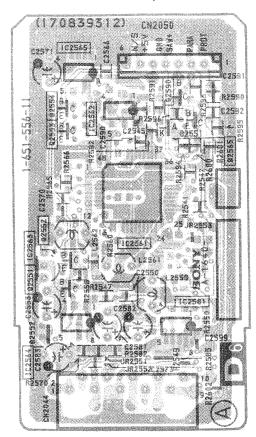




- D6 Board - < Conductor Side>

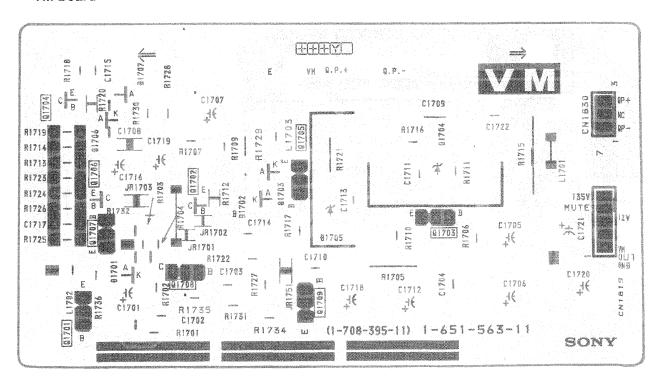


- D6 Board - < Component Side>



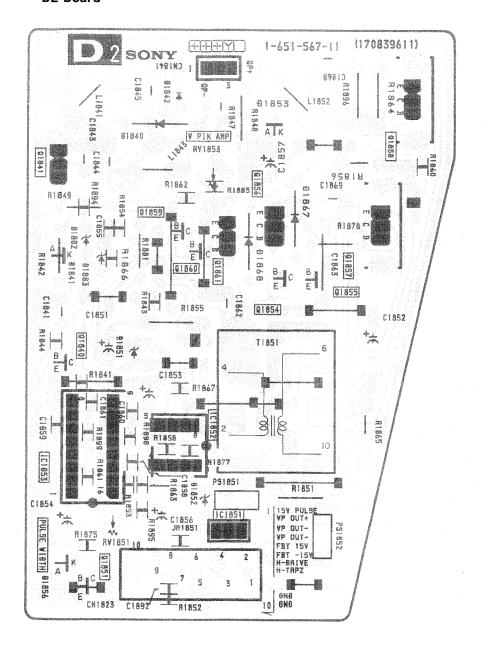
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

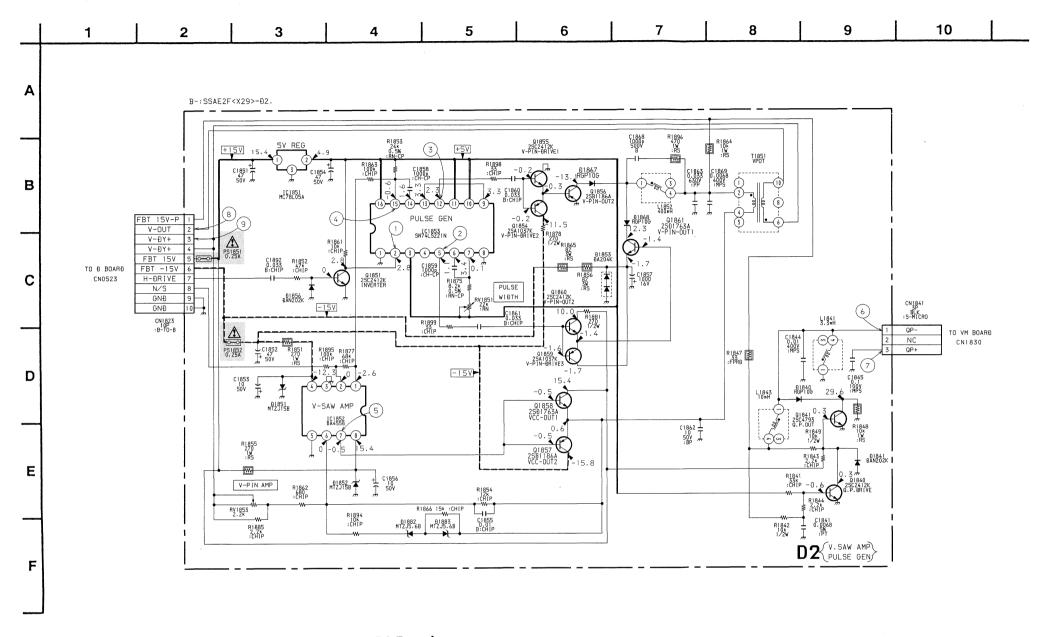
- VM Board -

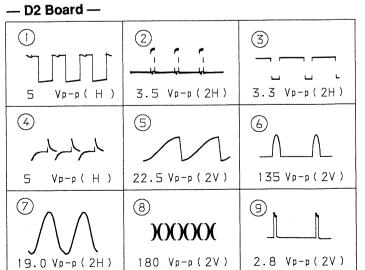


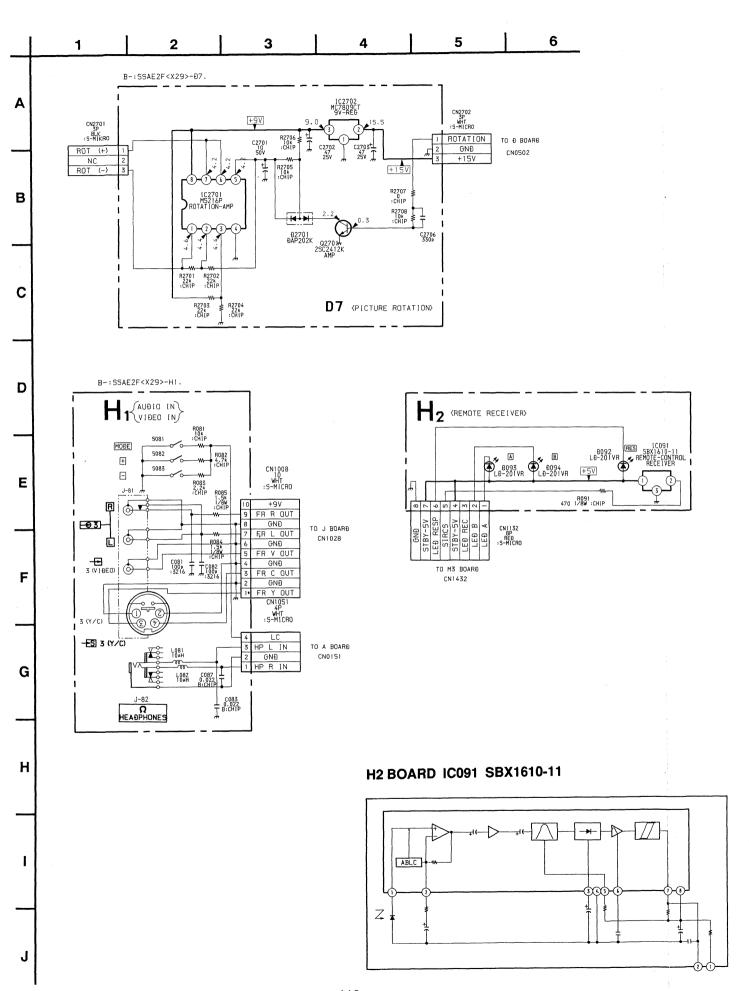


- D2 Board -



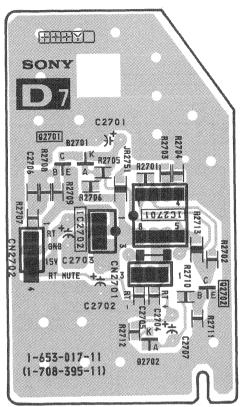




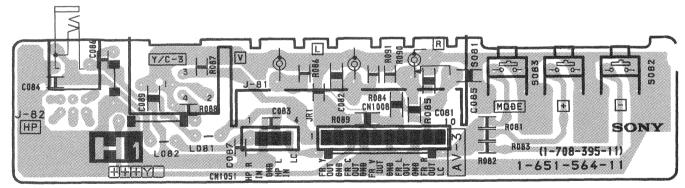




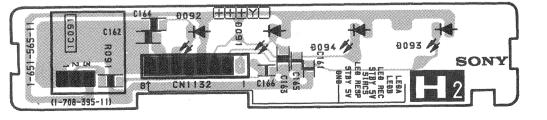
— D7 Board —

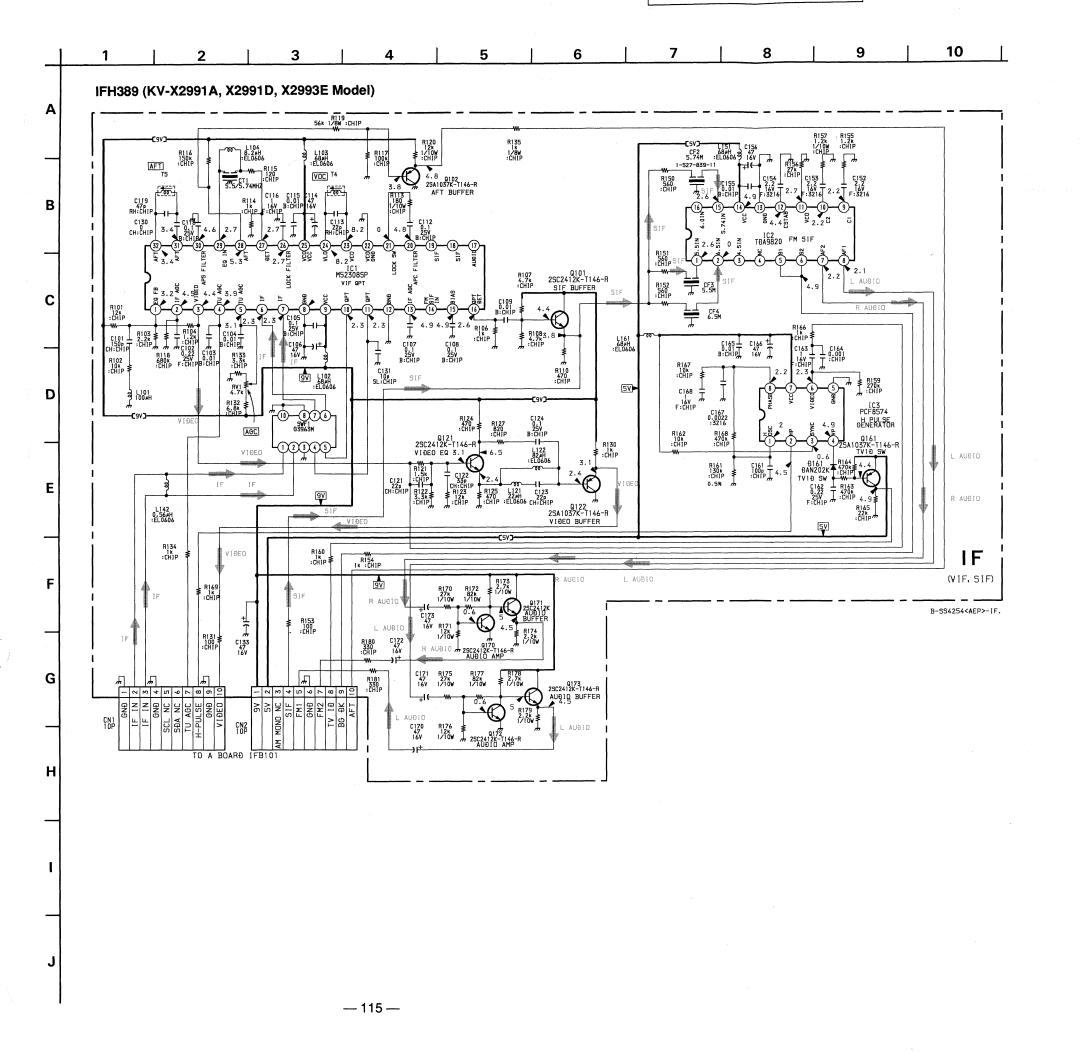


- H1 Board -



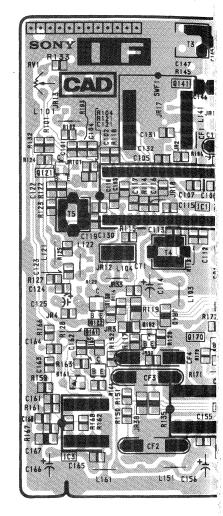
— H2 Board —



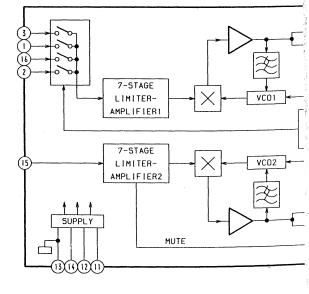




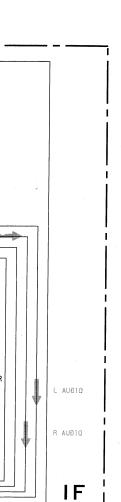
-IF BOARD- (KV-X2991A, X2



• IF BOARD IC2 TDA9820 (KV-X2991A, X2991D, X29



10

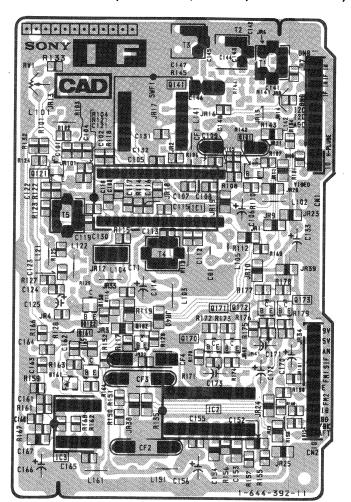


(VIF, SIF)

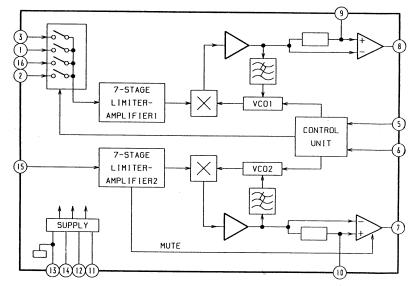
B-SS4254<AEP>-IF.



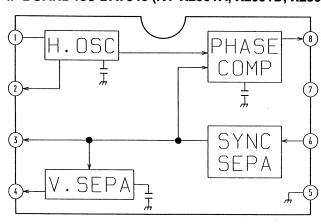
-IF BOARD- (KV-X2991A, X2991D, X2993E Model)

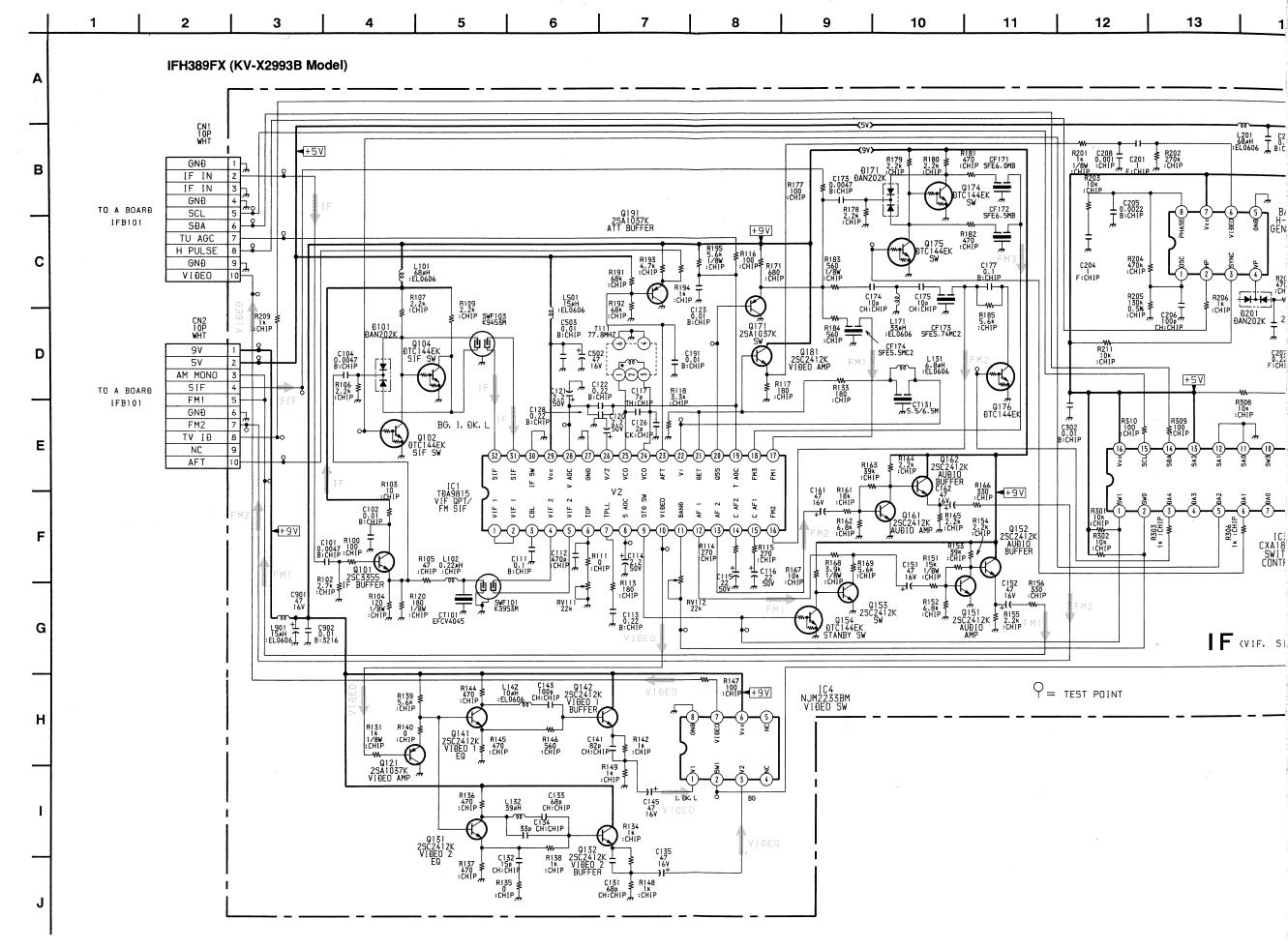


• IF BOARD IC2 TDA9820 (KV-X2991A, X2991D, X2993E Model)

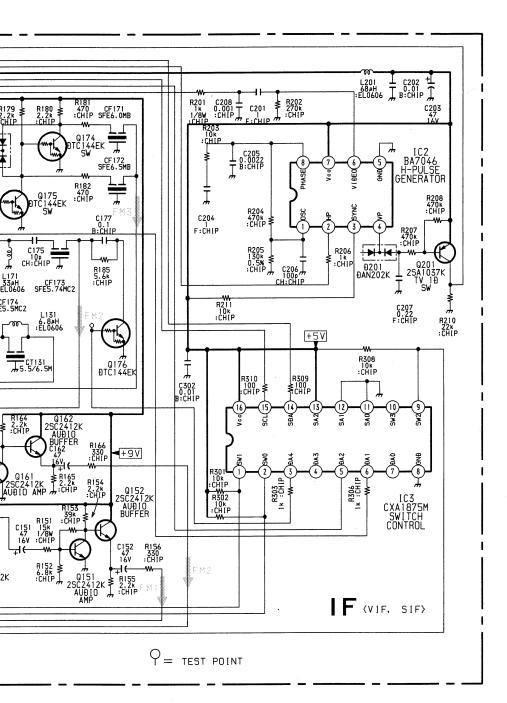


• IF BOARD IC3 BA7046 (KV-X2991A, X2991D, X2993E Model)



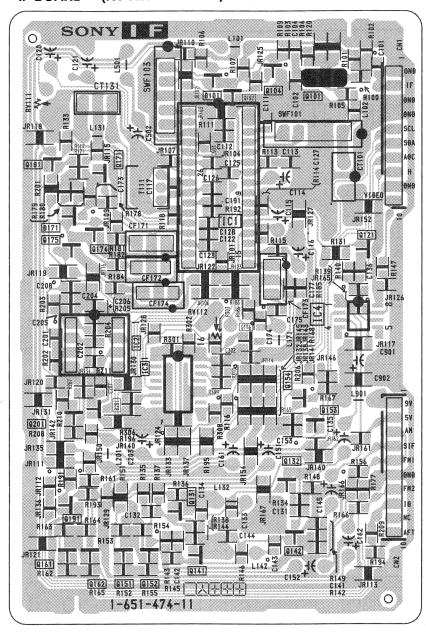


10 | 11 | 12 | 13 | 14 | 15



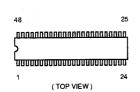


-IF BOARD- (KV-X2993B Model)



5-4. SEMICONDUCTORS

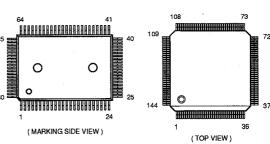




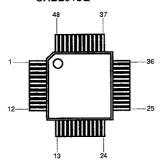
MC14046BDWR2 MC34025P MC74HC4053N YM7128



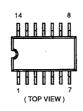
SAA4940H



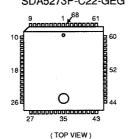
CXD2018Q



MC74F08DR2

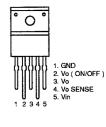


SAA7158 SDA5273P-C22-GEG

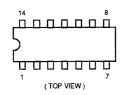


SI-32120CA

SI-3050CA



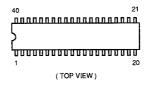
IR2112



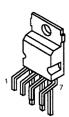
MC78L08ACPRP NJM78L05A NJM78M09FA RC78M15FA



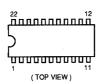
SAA728P-ZP



STV9379 TDA2052



LA7851MK



M5216P ST24C16CB1 TDA2822M TEA2114 μPC393C μPC4558C

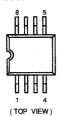


SBX1610-11

TC4S66F

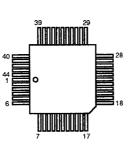


LM358D



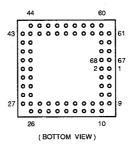
P83C652FBA-V3/AB514 SAA4951

1 2 3 4

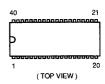


(TOP VIEW)

SDA30C163-2GEG



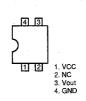
TDA2579B



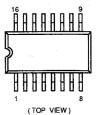
MB81C4256A-70PSZG

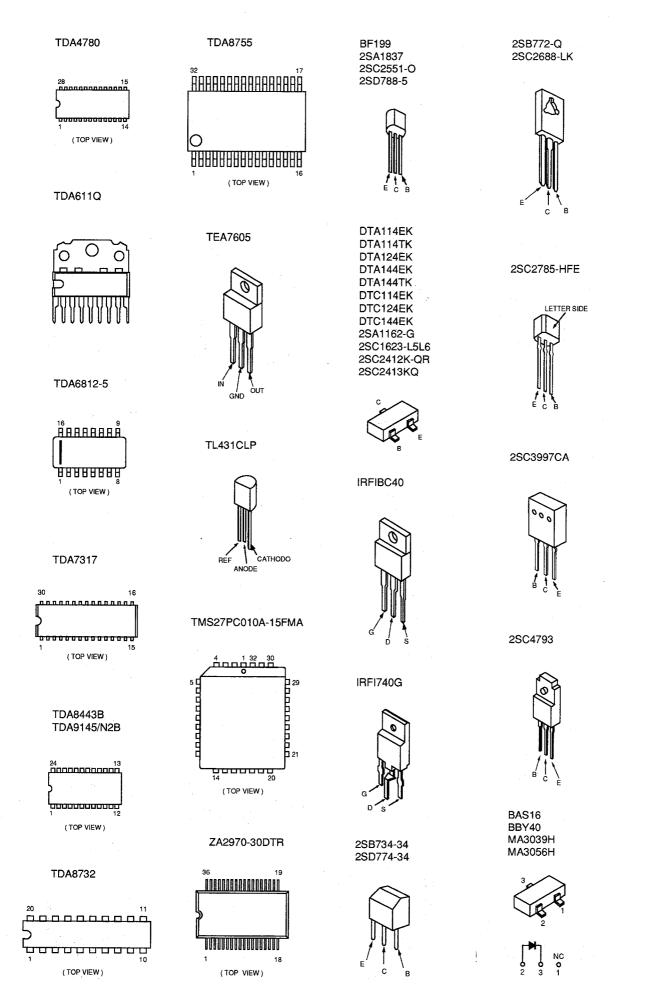


SFH617G-1

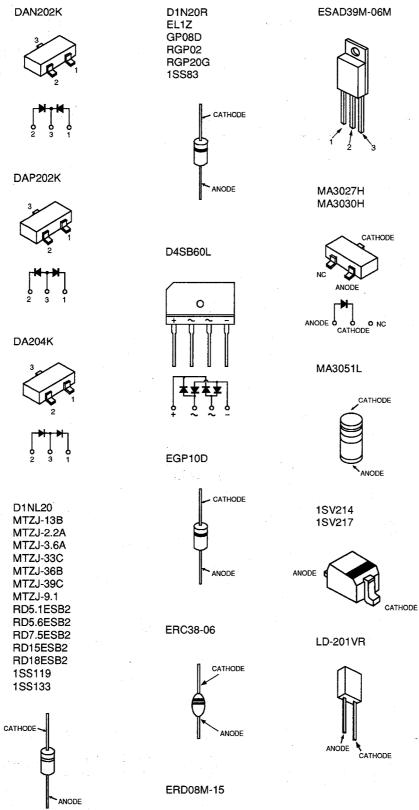


TDA4665T





DA204K D1NL20 MTZJ-9.1



SECTION 6

EXPLODED VIEWS

NOTE:

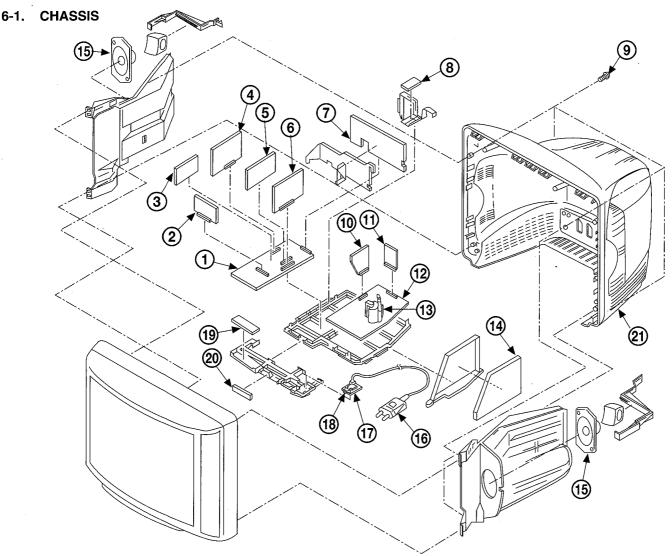
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked "* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items

The components identified by shading and marked $\hat{\Lambda}$ are critical for safety.

Replace only with the part number specified.

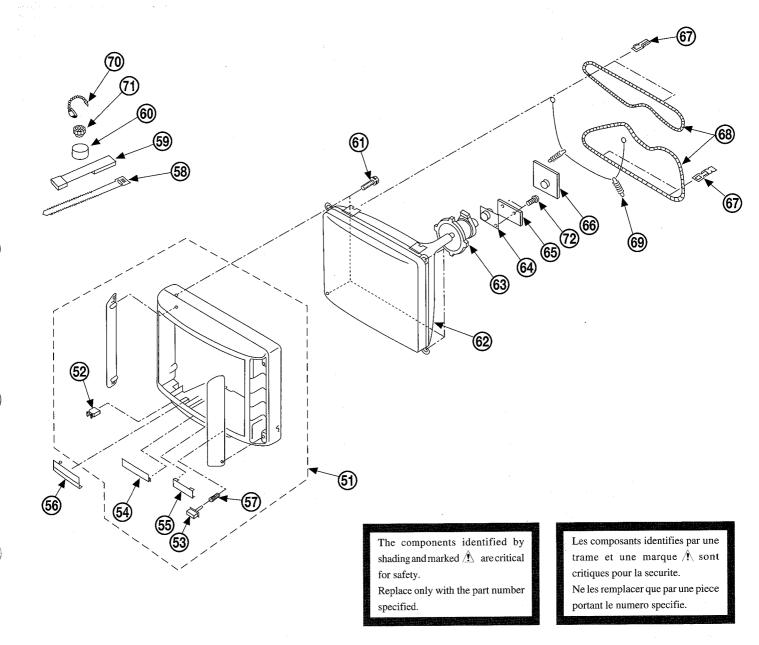
Les composants identifies par une trame et une marque \triangle sont critiques pour la securite.

Ne les remplacer que par une piece portant le numero specifie.



			`_			
PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
*A-1632-172-A	A BOARD, COMPLE	TE	12	*A-1642-131-A	D BOARD,	COMPLETE
	(KV-)	(2991A, X2991D, X2993E)	13	± 8-598-943-00	TRANSFORM	ER ASSY, FLYBACK
*A-1632-237-A	A BOARD, COMPLE	TE (KV-X2993B)				(NX-2661//UB2)
			14	*A-1636-007-A	G BOARD,	TERCETATION OF A SOCIETY TO SEE A COMMENT OF SECURITY CONTINUES AND ASSOCIATION OF A SOCIETY OF SECURITY OF SECURITY AND ASSOCIATION OF SECURITY OF SECURITY AND ASSOCIATION OF SECURITY ASSOCIATION OF SECURITY AND ASSOCIATION OF SECURITY ASSOCIATION O
			15			
*A-1630-192-A		ETE	2 TTT	CHECKS CONCENTED WITH PROTECTION OF WHITE STORES AND CONTRACTOR OF THE PROTECTION OF	CENTER TO THE PROPERTY OF THE	
			97			(KV-X2991A, X2991D)
*A-1630-271-A	A2 BOARD, COMPL	ETE (KV-X2993E)		2 1-590-460-11	CORD, POW	ER (WITH CONNECTOR)
*A-1621-053-A	B BOARD, COMPLE	TE			2.5A/250V	(KV-X2993B, X2993E)
*A-1626-001-A	Q BOARD, COMPLE	ete.	17	*A-1624-030-A	F1 BOARD,	COMPLETE
*A-1651-067-A	J BOARD, COMPLE	TE	18	A 1-571-433-12	SWITCH, P	USH (AC POWER)
*A-1640-151-A	D7 BOARD, COMPI	ETE	19	*A-1646-080-A	H2 BOARD	-
4-039-358-01	SCREW (4X16), (+) BV TAPPING	20	*A-1646-079-A	. H1 BOARD	
*A-1642-132-A	D2 BOARD, COMPI	ETE	21	X-4031-839-9	COVER ASS	Y, REAR
*A-1640-125-A	D6 BOARD, COMPI	ETE				
	*A-1632-172-A *A-1632-237-A *A-1635-018-A 1-693-185-11 *A-1630-271-A *A-1621-053-A *A-1626-001-A *A-1640-151-A 4-039-358-01 *A-1642-132-A	*A-1632-172-A A BOARD, COMPLE (KV-X *A-1632-237-A A BOARD, COMPLE *A-1635-018-A M3 BOARD, COMPLE 1-693-185-11 TUNER (UV916H) *A-1630-192-A A2 BOARD, COMPLE *A-1630-271-A A2 BOARD, COMPLE *A-1621-053-A B BOARD, COMPLE *A-1626-001-A Q BOARD, COMPLE *A-1651-067-A J BOARD, COMPLE *A-1640-151-A D7 BOARD, COMPLE *A-1642-132-A D2 BOARD, COMPLE *A-1642-132-A D2 BOARD, COMPLE	*A-1632-172-A A BOARD, COMPLETE (KV-X2991A, X2991D, X2993E) *A-1632-237-A A BOARD, COMPLETE (KV-X2993B) *A-1635-018-A M3 BOARD, COMPLETE 1-693-185-11 TUNER (UV916H) *A-1630-192-A A2 BOARD, COMPLETE (KV-X2991A, X2993B, X2991D) *A-1630-271-A A2 BOARD, COMPLETE (KV-X2993E) *A-1621-053-A B BOARD, COMPLETE *A-1626-001-A Q BOARD, COMPLETE *A-1651-067-A J BOARD, COMPLETE *A-1640-151-A D7 BOARD, COMPLETE 4-039-358-01 SCREW (4X16), (+) BV TAPPING *A-1642-132-A D2 BOARD, COMPLETE	*A-1632-172-A A BOARD, COMPLETE (KV-X2991A, X2991D, X2993E) *A-1632-237-A A BOARD, COMPLETE (KV-X2993B) *A-1635-018-A M3 BOARD, COMPLETE (KV-X2993B) *A-1630-185-11 TUNER (UV916H) 15 *A-1630-192-A A2 BOARD, COMPLETE (KV-X2991A, X2993B, X2991D) *A-1630-271-A A2 BOARD, COMPLETE (KV-X2993B, X2991D) *A-1621-053-A B BOARD, COMPLETE (KV-X2993B) *A-1626-001-A Q BOARD, COMPLETE 17 *A-1651-067-A J BOARD, COMPLETE 18 *A-1640-151-A D7 BOARD, COMPLETE 19 4-039-358-01 SCREW (4X16), (+) BV TAPPING 20 *A-1642-132-A D2 BOARD, COMPLETE 21	*A-1632-172-A A BOARD, COMPLETE (KV-X2991A, X2991D, X2993E) *A-1632-237-A A BOARD, COMPLETE (KV-X2993B) *A-1635-018-A M3 BOARD, COMPLETE (KV-X2993B) *A-1630-185-11 TUMER (UV916H) 15 1-504-507-11 *A-1630-192-A A2 BOARD, COMPLETE (KV-X2991A, X2991B) *A-1630-271-A A2 BOARD, COMPLETE (KV-X2991A, X2991B) *A-1621-053-A B BOARD, COMPLETE (KV-X2991A) *A-1621-053-A B BOARD, COMPLETE 17 *A-1624-030-A *A-1621-053-A D BOARD, COMPLETE 17 *A-1624-030-A *A-1621-053-A D BOARD, COMPLETE 17 *A-1624-030-A *A-1621-053-A B BOARD, COMPLETE 19 *A-1646-080-A *A-1640-151-A D7 BOARD, COMPLETE 19 *A-1646-080-A *A-1640-151-A D7 BOARD, COMPLETE 19 *A-1646-080-A *A-1642-132-A D2 BOARD, COMPLETE 20 *A-1646-079-A *A-1642-132-A D2 BOARD, COMPLETE 21 X-4031-839-9	*A-1632-172-A A BOARD, COMPLETE (KV-X2991A, X2991D, X2993E) *A-1632-237-A A BOARD, COMPLETE (KV-X2993B) *A-1635-018-A M3 BOARD, COMPLETE (KV-X2993B) *A-1630-195-11 TUNER (UV916H) *A-1630-192-A A2 BOARD, COMPLETE (KV-X2991A, X2993B, X2991D) *A-1630-271-A A2 BOARD, COMPLETE (KV-X2993B) *A-1630-271-A A2 BOARD, COMPLETE (KV-X2993B) *A-1621-053-A B BOARD, COMPLETE (KV-X2993E) *A-1626-001-A Q BOARD, COMPLETE (KV-X2993E) *A-1626-001-A Q BOARD, COMPLETE (KV-X2993E) *A-1640-151-A D7 BOARD, COMPLETE (KV-X2993E) *A-1640-1

6-2. PICTURE TUBE



REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMAR
51	x-4031-666-1	BEZNET ASSY		62	<u>n</u> 8-733-853-05	PICTURE TUBE SD-269	(M68LCT60X)
52	4-392-036-01			63	A-451-444-11	DEFRECTION YOKE Y29G	KC
53	4-202-637-01	•		64	A 1-452-509-11	NECK ASSY, PICTURE TO	JBE (NA-308)
54	4-202-642-01	•		65	*A-1644-053-A	VM BOARD, COMPLETE	
55	4-202-643-01			66	*A-1638-054-A	C BOARD, COMPLETE	
56	4-202-644-51			67	4-202-415-01	CLIP, DGC (29")	
57	4-329-112-51	•		68	1 1-406-807-11	COIL, DEMAGNETIZATION	ν
58	3-701-007-00			69	4-200-433-01	SPRING, EXTENSION	
59	X-4387-214-1			70	4-308-870-00	CLIP, LEAD WIRE	
60	1-452-032-00			71	1-452-094-00	MAGNET, ROTATABLE DI	SK; 15MM Ø
				72	4-039-357-01	SCREW (3x8), BV TAPP:	ING
61	4-036-188-01			72	4-039-357-01	SCREW (3x8), BV TAPP	ING

SECTION 7 ELECTRICAL PARTS LIST

The components identified by shading and marked $extstyle \Delta$ are critical for safety.

Replace only with the part number specified.

Les composants identifies par une trame et une marque 🛕 sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

- All resistors are in ohms
- F: nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS

COILS

MF: mF, PF: mmF

MMH: mH, μH: mH



REF.NO.	PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTION		REMARK
	*A-1621-053-A	B BOARD, COMPLETE			C1418 C1444	1-164-005-11 1-216-295-91	CERAMIC CHIP 0.47MF METAL GLAZE 0 5%	1/10	25V
					C1451	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
	< CAP	ACITOR >			C1452	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C301	1-163-038-00	CERAMIC CHIP 0.1MF		25V	C1453		CERAMIC CHIP 0.1MF	10%	25V
C302	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	C1454 C1455		CERAMIC CHIP 0.1MF CERAMIC CHIP 33PF	10% 5%	25V 50V
C303 C304	1-164-505-11	CERAMIC CHIP 2.2MF CERAMIC CHIP 0.1MF	10%	16V 25V	C1455		CERAMIC CHIP 3.47MF	J^0	25V
C305	1-163-096-00		5%	50V	C1458		CERAMIC CHIP 2.2MF		16V
C306	1-163-097-00	CERAMIC CHIP 15PF	5%	50V	C1459		CERAMIC CHIP 2.2MF		16V
C307	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	C1467	1-126-101-11		20%	16V
C308	1-163-809-11		10%	25V	C1468		CERAMIC CHIP 2.2MF CERAMIC CHIP 2.2MF		16V 16V
C309 C310	1-163-809-11 1-164-004-11	CERAMIC CHIP 0.047MF CERAMIC CHIP 0.1MF	10% 10%	25V 25V	C1469 C1470		CERAMIC CHIP 33PF	5%	50V
			100						
C311	1-164-005-11		1.00.	25V	C1471	1-164-004-11	CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF	10% 10%	25V 25V
C313 C314	1-163-009-11 1-163-038-00		10%	50V 25V	C1472 C1473	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V 25V
C314	1-163-009-11	CERAMIC CHIP 0.1MF	10%	50V	C1474	1-163-038-00	CERAMIC CHIP 0.1MF	100	25V
C317	1-164-005-11			25V	C1475	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C318	1-164-005-11	CERAMIC CHIP 0.47MF		25V	C1476		CERAMIC CHIP 0.1MF	10%	25V
C320	1-124-910-11		20%	50V	011,		CERAMIC CHIP 0.1MF	10%	25V
C321	1-163-038-00		5%	25V 50V	C1479 C1480		CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF	10% 10%	25V 25V
C325 C330	1-163-245-11 1-164-005-11	CERAMIC CHIP 50FF	2%	25V	C1483		CERAMIC CHIP 0.1MF	10%	25V 25V
C340	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	C1487	1-126-101-11	ELECT 100MF	20%	16V
C360	1-164-005-11	CERAMIC CHIP 0.47MF		25V	C1492	1-164-505-11	CERAMIC CHIP 2.2MF		16V
C501		CERAMIC CHIP 0.1MF	10%	25V	C1493		CERAMIC CHIP 2.2MF		16V
C503	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	C1494	1-164-505-11	CERAMIC CHIP 2.2MF CERAMIC CHIP 2.2MF		16V 16V
C504	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50∨	C1495	1-104-303-11	CERAMIC CHIP 2.2MF		101
C505		CERAMIC CHIP 0.0015MF	10%	50V	C1496		CERAMIC CHIP 33PF	5%	50V
C506	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	C1497 C1498	1-163-239-11	CERAMIC CHIP 33PF CERAMIC CHIP 33PF	5% 5%	50V
C507 C508	1-126-101-11 1-163-127-00	ELECT 100MF CERAMIC CHIP 270PF	20% - 5%	16V 50V	C1498		CERAMIC CHIP 33PF	5%	50V 50V
C509	1-124-925-11		20%	50V	01433	1 103 233 11	CHICALIC CHIL SOLL	•	
						< CON	NECTOR >		
C510	1-124-916-11		20% 20%	50V 50V	CN302	*1_60E.201 01	CONNECTOR, BOARD TO BOA	מחו/ חם	
C511 C512	1-124-927-11	ELECT 4.7MF CERAMIC CHIP 0.1MF	20% 10%	25V	CNSUZ	-1-033-301-21	COMMECTOR, DORAD TO DOM	VD 401	
C513		CERAMIC CHIP 0.001MF	10%	50V		< DIO	DE >		
C514		CERAMIC CHIP 0.1MF	10%	25V	D201	0 710 014 43	DTODE DANGOV		
C515	1-163-809-11	CERAMIC CHIP 0,047MF	10%	25V	D301 D304		DIODE DAN202K DIODE MA3051L		
C516	1-163-014-00	CERAMIC CHIP 0.0027MF	10%	50V	D501		DIODE MA3056H		
C520	9-910-999-3A		2%	100V					
C521	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	1	< DEL	AY LINE >		
C530	1-164-005-11	CERAMIC CHIP 0.47MF		25V	DL301	1-415-652-11	DC (LC)		
C560	1-164-005-11	CERAMIC CHIP 0.47MF		25V	D1301	_ 110 VJA L1			
					•				

В

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTIO	N -		F	REMARK
FL1408 FL1409 FL1410	1-236-071-11	TER > ENCAPSULATED COMPONENT ENCAPSULATED COMPONENT ENCAPSULATED COMPONENT		R342 R343 R344 R360 R365	1-216-047-00 1-216-049-00 1-216-049-00 1-216-295-91 1-216-073-00	METAL GLAZE METAL GLAZE	820 1K 1K 0 10K	5% 5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
	< IC	>		R370 R371	1-216-295-91 1-216-295-91	METAL GLAZE METAL GLAZE	0	5% 5%	1/10W 1/10W	
IC301 IC302 IC303 IC501	8-759-288-85 8-759-037-45	IC TDA9145/N2B IC TDA4665T IC MC78L08ACPRP IC TDA2579B		R501 R502 R503	1-216-687-11 1-216-075-00 1-216-077-00	METAL CHIP METAL GLAZE METAL GLAZE	33K 12K 15K	5% 5%	1/10W 1/10W 1/10W	
IC1406	•	IC TDA8443B		R506 R508	1-216-073-00 1-216-073-00	METAL GLAZE	10K 10K	5% 5%	1/10W 1/10W	
IC1407	8-759-183-36			R509 R510 R512	1-216-081-00 1-216-065-00 1-216-057-00		22K 4.7K 2.2K	5% 5% 5%	1/10W 1/10W 1/10W	
L307	< COI 1-408-405-00	INDUCTOR 4.7UH		R512	1-216-037-00		10K	5%	1/10W	
L1402		INDUCTOR 56UH		R514 R515	1-216-049-00 1-216-061-00	METAL GLAZE	1K 3.3K	5% 5%	1/10W 1/10W	
	< TRA	NSISTOR >		R516 R517	1-216-097-00 1-216-047-00	METAL GLAZE	100K 820	5% 5%	1/10W 1/10W	
Q301 Q302 Q305 Q310 Q311	8-729-901-00 8-729-216-22 8-729-901-01 8-729-920-74 8-729-216-22	TRANSISTOR DTC124EK TRANSISTOR 2SA1162-G TRANSISTOR DTC144EK TRANSISTOR 2SC2412K-QR TRANSISTOR 2SA1162-G		R518 R519 R520 R521 R522	1-216-049-00 1-216-067-00 1-216-009-00 1-216-051-00 1-216-049-00	METAL GLAZE METAL GLAZE METAL GLAZE	1K 5.6K 22 1.2K 1K	5% 5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
Q313 Q501	8-729-920-74 8-729-920-74	TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR		R523	1-216-041-00	METAL GLAZE	470	5%	1/10W	
Q502 Q503	8-729-920-74 8-729-920-74	TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR		R524 R525	1-216-061-00 1-216-095-00	METAL GLAZE	82K	5%	1/10W 1/10W	
Q504	8-729-216-22	TRANSISTOR 2SA1162-G		R526 R527	1-216-097-00 1-216-073-00		100K 10K	5% 5%	1/10W 1/10W	
Q505 Q506 Q507 Q510 Q519	8-729-900-53 8-729-901-04 8-729-920-74 8-729-900-53 8-729-900-80	TRANSISTOR DTC114EK TRANSISTOR DTA114EK TRANSISTOR 2SC2412K-QR TRANSISTOR DTC114EK TRANSISTOR DTC114ES		R528 R529 R530 R531 R532	1-216-073-00 1-216-067-00 1-216-073-00 1-216-049-00 1-216-069-00	METAL GLAZE	10K 5.6K 10K 1K 6.8K	5% 5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
Q1421 Q1422 Q1423 Q1424 Q1425	8-729-216-22 8-729-920-74 8-729-920-74 8-729-920-74	TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR		R533 R535 R550 R1416 R1418	1-216-065-00 1-216-057-00 1-216-041-00 1-216-029-00 1-216-041-00	METAL GLAZE	4.7K 2.2K 470 150 470	5% 5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
		SISTOR >	4 /4 0***	R1423	1-216-041-00		470 470	5% 5%	1/10W 1/10W	
R301 R302 R303 R304	1-216-041-00 1-216-041-00 1-216-025-00 1-216-025-00 1-216-035-00	METAL GLAZE 470 5% METAL GLAZE 470 5% METAL GLAZE 100 5% METAL GLAZE 100 5% METAL GLAZE 270 5%	1/10W 1/10W 1/10W	R1424 R1425 R1427 R1430	1-216-041-00 1-216-049-00 1-216-049-00 1-216-075-00	METAL GLAZE METAL GLAZE	1K 1K 1ZK	5% 5% 5%	1/10W 1/10W 1/10W 1/10W	2.10 2.10
R306 R307 R312 R313 R316	1-216-049-00 1-216-041-00 1-216-081-00 1-216-085-00	METAL GLAZE 1K 5% METAL GLAZE 470 5% METAL GLAZE 22K 5% METAL GLAZE 33K 5%	1/10W 1/10W 1/10W 1/10W	R1431 R1432 R1433 R1440 R1441	1-216-075-00 1-216-025-00 1-216-025-00 1-216-025-00 1-216-295-91	METAL GLAZE METAL GLAZE METAL GLAZE	12K 100 100 100	5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
R317	1-216-073-00	METAL GLAZE 10K 5% METAL GLAZE 470 5%		R1442 R1443	1-216-295-91 1-216-295-91		0	5% 5%	1/10W 1/10W	
R318 R319 R320 R321 R322	1-216-041-00 1-216-041-00 1-216-025-00 1-216-039-00 1-216-041-00	METAL GLAZE 470 5% METAL GLAZE 470 5% METAL GLAZE 100 5% METAL GLAZE 390 5% METAL GLAZE 470 5%	1/10W 1/10W 1/10W	R1444 R1449 R1450	1-216-295-91 1-216-033-00 1-216-033-00	METAL GLAZE METAL GLAZE METAL GLAZE	0 220 220	5% 5% 5%	1/10W 1/10W 1/10W	
R331 R332 R333 R340 R341	1-216-053-00 1-216-069-00 1-216-069-00 1-216-033-00 1-216-041-00	METAL GLAZE 1.5K 5% METAL GLAZE 6.8K 5% METAL GLAZE 6.8K 5% METAL GLAZE 220 5% METAL GLAZE 470 5%	1/10W 1/10W 1/10W 1/10W	R1458 R1459 R1460 R1468 R1469	1-216-033-00 1-216-033-00 1-216-033-00 1-216-295-91 1-216-295-91	METAL GLAZE METAL GLAZE METAL GLAZE	220 220 220 0 0	5% 5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	



Les composants identifies par une trame et une marque 🔨 sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and marked 🗥 are critical for safety.
Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTION		REMARK
R1470 R1472 R1473	1-216-049-00 1-216-033-00 1-216-033-00	METAL GLAZE 220 METAL GLAZE 220	5% 1/100 5% 1/100 5% 1/100	W	C21 C22 C23	1-163-125-00 1-163-081-00 1-163-038-00		5%	50V 25V 25V
R1474 R1475 R1477 R1478 R1479	1-216-033-00 1-216-295-91 1-216-022-00 1-216-022-00 1-216-022-00	METAL GLAZE 0 METAL GLAZE 75 METAL GLAZE 75 METAL GLAZE 75	5% 1/100 5% 1/100 5% 1/100 5% 1/100 5% 1/100	W W	C24 C25 C26 C27 C28	1-163-038-00 1-163-038-00	CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF		25V 25V 25V 25V 25V
R1480 R1486 R1487 R1489 R1490	1-216-025-00 1-216-029-00 1-216-037-00 1-216-065-00 1-216-043-00	METAL GLAZE 150 METAL GLAZE 330 METAL GLAZE 4.7K METAL GLAZE 560	5% 1/100 5% 1/100 5% 1/100 5% 1/100 5% 1/100	W W W	C29 C30 C31 C32 C33		CERAMIC CHIP 0.001MF CERAMIC CHIP 33PF ELECT 2.2MF	10% 5% 20% 20%	25V 50V 50V 50V 50V
R1494 RV501		METAL GLAZE 470 RIABLE RESISTOR > RES, ADJ, CERMET 4.	5% 1/10V 7K	C34 C35 C36 C37	1-163-009-11	ELECT 10MF CERAMIC CHIP 0.001MF CERAMIC CHIP 0.001MF	20% 10% 10%	25V 50V 50V 50V	
X301 X302	1-567-504-11	STAL > OSCILLATOR, CRYSTAL OSCILLATOR, CRYSTAL		C38 C39 C40 C41	1-163-097-00 1-163-097-00 1-102-963-00 1-163-038-00	CERAMIC CHIP 15PF	5% 5% 5%	50V 50V 50V 25V	
		F1 BOARD, COMPLETE	******	C42 C43			20%	50V 25V 25V 50V	
CN0003		NECTOR >	ER) 4P		C45 C46 C47 C48	1-163-125-00 1-164-232-11 1-163-129-00	CERAMIC CHIP 220PF CERAMIC CHIP 0.01MF CERAMIC CHIP 330PF	5% 10% 5%	50V 50V 50V
	#1-695-292-11 < FUS # 1-576-232-21		ER) 5P 5 A/2 5	AV.	C49 C50 C51 C52 C53	1-163-014-00 1-164-232-11 1-164-004-11	CERAMIC CHIP 0.1MF CERAMIC CHIP 0.0027MF CERAMIC CHIP 0.01MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF	10% 10% 10% 10%	25V 50V 50V 25V 25V
	1-533-230-11 < SWI	HOLDER, FUSE; F651 TCH > SWITCH, PUSH (AC PO			C54 C55 C56	1-124-907-11 1-163-038-00	ELECT 10MF CERAMIC CHIP 0.1MF CERAMIC CHIP 68PF	20% 5% 5%	50V 25V 50V 50V
	******	Q BOARD, COMPLETE		TOTAL CONTRACTOR OF THE PARTY O	C58 C59 C61 C62	1-163-038-00 1-163-113-00 1-163-129-00	CERAMIC CHIP 0.1MF CERAMIC CHIP 68PF CERAMIC CHIP 330PF CERAMIC CHIP 0.01MF	5% 5% 10%	25V 50V 50V 50V
	< CA	PACITOR >			C63 C64	1-163-809-11 1-124-927-11	CERAMIC CHIP 0.047MF	10% 20%	25V 50V
C1 C3 C4 C5 C6	1-124-927-11 1-164-299-11	CERAMIC CHIP 0.22MF CERAMIC CHIP 0.33MF	10% 20% 10% 10% 20%	50V 50V 25V 16V 50V	C65 C66 C67 C68 C69	1-163-117-00	CERAMIC CHIP 0.1MF CERAMIC CHIP 100PF CERAMIC CHIP 0.1MF BLECT 10MF CERAMIC CHIP 0.1MF	5% 20%	25V 50V 25V 50V 25V
C7 C8 C10 C11 C12	1-163-038-00 1-124-927-11	CERAMIC CHIP 220PF	20% 5% 5%	50V 25V 50V 50V 50V	C70 C71 C72 C73 C74	1-163-129-00 1-163-038-00 1-163-014-00	CERAMIC CHIP 100PF CERAMIC CHIP 330PF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.0027MF CERAMIC CHIP 0.01MF	5% 5% 10% 10%	50V 50V 25V 50V 50V
C13 C14 C15 C17 C18	1-124-927-11 1-163-038-00 1-163-989-11	CERAMIC CHIP 1MF ELECT 4.7MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.033M CERAMIC CHIP 0.033M		16V 50V 25V 25V 25V	C75 C82 C85 C86 C87	1-163-097-00 1-163-038-00 1-163-038-00	CERAMIC CHIP 220PF CERAMIC CHIP 15PF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF	5% 5%	50V 50V 25V 25V 25V
C19 C20	1-163-097-00	CERAMIC CHIP 15PF CERAMIC CHIP 220PF	5% 5%	50V 50V	C88 C89		CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF	•	25V 25V



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REF.NO.	PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C91	1-124-907-11		20%	50V	IC6	8-759-257-92	IC SAA4951	
C92 C93	1-163-038-00 1-163-038-00			25V 25V	IC7		IC P83C652FBA-V3/AB514	
004	1 104 016 11	ELECT 22MF	20%	50V	IC8 IC11		IC NJM78L05A IC NJM78L05A	
C94 C95	1-124-916-11 1-163-038-00		20%	25V	IC12		IC MC14046BDWR2	
C96	1-124-916-11	ELECT 22MF	20%	50V	IC13	8-759-234-77		
C97		CERAMIC CHIP 0.1MF	0.00.	25V	TC14	0 750 700 05	TO MINITAL OF A	
C98	1-124-916-11	ELECT 22MF	20%	50V	IC14 IC15	8-759-234-77	IC NJM78L05A	
C99	1-163-038-00	CERAMIC CHIP 0.1MF		25V	IC16	8-759-267-23	IC MC74F08DR2	
C1001		CERAMIC CHIP 0.1MF		25V	IC17	8-759-257-63		
C1004 C1005	1-163-038-00 1-163-038-00	CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF		25V 25V	IC18	8-759-708-05	IC NJM78L05A	
C1005		CERAMIC CHIP 0.1MF		25V 25V	IC19	8-759-234-77	IC TC4S66F	
					IC20	8-759-234-77		
C1007		CERAMIC CHIP 0.1MF		25V		. 001	* .	
C1008 C1009		CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF		25V 25V		< COI	т >	
C1012		CERAMIC CHIP 100PF	5%	50V	L1	1-410-437-11	INDUCTOR 330UH	
C1014	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	L2	1-410-437-11		
C1016	1 16/ 222 11	CERAMIC CHIP 0.01MF	10%	50V	L4 L5	1-408-409-00	INDUCTOR 10UH TRANSFORMER, DETECTOR	
C1016		CERAMIC CHIP 0.01MF	10%	50V	L6		TRANSFORMER, DETECTOR	
C1018	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V			•	
C1019	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	L7		TRANSFORMER, DETECTOR	
	< CON	NNECTOR >			L8 L9	1-408-409-00 1-408-409-00	INDUCTOR 10UH INDUCTOR 10UH	
	(001	ANDCION /			L10		TRANSFORMER, DETECTOR	
CN2145	*1-695-301-21	CONNECTOR, BOARD TO BOA	ARD 40P		L14	1-408-409-00	INDUCTOR 10UH	
	< DIC	DDE >			L15	1-408-409-00		
7.2	0 710 047 36	DIONE DRUGO			L16	1-412-525-21		
D3 D4	8-719-047-36 8-719-047-37				L1001	1-410-999-11	INDUCTOR CHIP 3.3UH	
D5	8-719-047-37	DIODE BAS16				< TRA	NSISTOR >	
D6	8-719-047-37				24	0 500 016 00		
D8	8-719-047-36	DIODE BRA40			Q1 Q2		TRANSISTOR 2SA1162-G TRANSISTOR 2SC2412K-QR	
D9	8-719-047-37	DIODE BAS16			Q8		TRANSISTOR BF550	
D10	8-719-047-36				Q9		TRANSISTOR 2SC2412K-QR	
D11 D12	8-719-047-37 8-719-047-37				Q10	8-729-025-25	TRANSISTOR BF550	
D12		DIODE RD5.6M-B2			011	8-729-025-25	TRANSISTOR BF550	
					Q12	8-729-216-22	TRANSISTOR 2SA1162-G	
D15		DIODE DAN202K		•	Q13	8-729-920-74	TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR	
D16	0-/15-314-43	DIODE DAN202K			Q14 Q16		TRANSISTOR 2SC2412K-QK	
	< FEF	RRITE BEAD >			_	0 500 001 01	TRANSFORM DEGISSOR	
FB29	1_/11/_23/_11	INDUCTOR, FERRITE BEAD			Q17 Q18		TRANSISTOR DTC144EK TRANSISTOR DTC144EK	
I DZ J	1 111 251 11	INDUCTORY I BRICEIU			Q20		TRANSISTOR 2SA1162-G	
	< FII	LTER >			Q21		TRANSISTOR 2SA1162-G	
FL1	1_230_002_11	FILTER, LOW PASS			Q22	8-729-920-74	TRANSISTOR 2SC2412K-QR	
FL2		ENCAPSULATED COMPONENT			Q24	8-729-901-01	TRANSISTOR DTC144EK	
FL3		ENCAPSULATED COMPONENT						
FL4		ENCAPSULATED COMPONENT				< RES	ISTOR >	
FL5	1-730-0/1-11	ENCAPSULATED COMPONENT			JR10	1-216-025-00	METAL GLAZE 100 5%	1/10W
FL6		ENCAPSULATED COMPONENT			JR11	1-216-025-00	METAL GLAZE 100 5%	1/10W
FL8	1-236-071-11	ENCAPSULATED COMPONENT			JR12		INDUCTOR, FERRITE BEAD	
FL9 FL10	1-239-881-11	FILTER, LOW PASS			JR13 JR14		INDUCTOR, FERRITE BEAD METAL GLAZE 0 5%	1/10W
FL11	1-239-883-11	FILTER, LOW PASS FILTER, LOW PASS FILTER, LOW PASS						-,,
	==	> IC TDA8755 IC ZA2970-30DTR IC ZA2970-30DTR			JR15	1-216-295-00		1/10W
	< IC	> .			JR16 JR17	1-216-295-00 1-216-295-00		1/10W 1/10W
IC1	8-759-257-59	IC TDA8755			JR18	1-216-295-00		1/10W
IC2	8-759-280-77	IC ZA2970-30DTR			JR19	1-216-295-00		1/10W
IC3					TDOO	1 016 000 00	METERNAL OF SIZE O CO.	1 /1 017
IC4	8-759-257-61	IC SAA494UH			JR20	1-216-295-00	METAL GLAZE 0 5%	1/10W



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REF.NO.	PART NO.	DESCRIPTION	<u>N</u>	į	REMARK	REF.NO.	PART NO.	DESCRIPTIO	N		RE	MARK
JR21	1-216-295-00	METAL GLAZE	0	5% 1/10W		R67	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
JR22	1-216-295-00	METAL GLAZE	0 .	5% 1/10W		R68	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
JR23	1-216-295-00	METAL GLAZE		5% 1/10W		R69	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
JR24	1-216-295-00	METAL GLAZE	0	5% 1/10W		R70 R71	1-216-085-00 1-216-063-00	METAL GLAZE METAL GLAZE	33K 3.9K	5% 5%	1/10W 1/10W	
JR25	1-216-295-00	METAL GLAZE	0	5% 1/10W		KII	1-210-003-00	MEIAU GUALE	3.9K	J.0	1/101	
JR26	1-216-295-00	METAL GLAZE		5% 1/10W		R72	1-216-033-00	METAL GLAZE	220	5%	1/10W	
JR27	1-216-295-00	METAL GLAZE	0	5% 1/10W		R73	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
JR28	1-216-295-00	METAL GLAZE		5% 1/10W		R74	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
JR30	1-216-295-00	METAL GLAZE	0	5% 1/10W		R75	1-216-051-00 1-216-051-00	METAL GLAZE METAL GLAZE	1.2K 1.2K	5% 5%	1/10W 1/10W	
JR31	1-216-295-00	METAL GLAZE	0	5% 1/10W		R76	1-210-031-00	METAL GUAZE	1.41	20	1/10%	
JR32	1-216-295-00	METAL GLAZE		5% 1/10W		R77	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
JR33	1-216-295-00	METAL GLAZE		5% 1/10W		R78	1-216-037-00	METAL GLAZE	330	5%	1/10W	
JR34	1-216-295-00	METAL GLAZE		5% 1/10W		R79	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
JR35	1-216-295-00	METAL GLAZE	0	5% 1/10W		R80	1-216-047-00	METAL GLAZE	820	5%	1/10W	
TD 2 6	1 216 205 00	METAL GLAZE	0	5% 1/10W		R81	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
JR36	1-216-295-00	METAL GLAZE	U .	J% 1/10W		R83	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1	1-216-025-00	METAL GLAZE	100	5% 1/10W		R84	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2	1-216-035-00	METAL GLAZE		5% 1/10W		R85	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3	1-216-025-00	METAL GLAZE		5% 1/10W		R86	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R4	1-216-029-00	METAL GLAZE		5% 1/10W		R87	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R5	1-216-295-91	METAL GLAZE	0	5% 1/10W		R88	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R6	1-216-033-00	METAL GLAZE	220	5% 1/10W		R89	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R7	1-216-049-00	METAL GLAZE		5% 1/10W		R90	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R8	1-216-049-00	METAL GLAZE	1K	5% 1/10W		R91	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R12	1-216-045-00	METAL GLAZE		5% 1/10W		R92	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R15	1-216-045-00	METAL GLAZE	680	5% 1/10W		R93	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R16	1-216-053-00	METAL GLAZE	1.5K	5% 1/10W		R94	1-216-035-00	METAL GLAZE	100	5%	1/10W	
R18	1-216-295-91	METAL GLAZE		5% 1/10W		R95	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R20	1-216-047-00	METAL GLAZE	820	5% 1/10W		R99	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R23	1-216-057-00	METAL GLAZE		5% 1/10W		R096	1-216-295-91	METAL GLAZE	0	5%	1/10W	
R24	1-216-025-00	METAL GLAZE	100	5% 1/10W		R097	1-216-295-91	METAL GLAZE	0	5%	1/10W	
R25	1-216-045-00	METAL GLAZE	680	5% 1/10W		R1001	1-216-293-91	METAL GLAZE	100	5%	1/10W	
R25	1-216-025-00	METAL GLAZE		5% 1/10W		R1002	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R27	1-216-025-00	METAL GLAZE		5% 1/10W		R1003	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R28	1-216-001-00	METAL GLAZE		5% 1/10W		R1004	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R29	1-216-085-00	METAL GLAZE	33K	5% 1/10W		71005	1 016 022 00	WEEDLY OF LEE	220	E0.	1 /1 057	
D20	1-216-295-91	METAL GLAZE	0	5% 1/10W		R1005 R1008	1-216-033-00 1-216-025-00	METAL GLAZE METAL GLAZE	220 100	5% 5%	1/10W 1/10W	
R30 R33	1-216-253-91	METAL GLAZE		5% 1/10W		R1011	1-216-295-91	METAL GLAZE	0	5%	1/10W	
R34	1-216-065-00	METAL GLAZE	4.7K			R1012	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R35	1-216-049-00		1K	5% 1/10W		R1013	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R36	1-216-065-00	METAL GLAZE	4.7K	5% 1/10W		-4044	4 046 055 00		0.077	Ε0.	4 / 4 0 1.7	
R37	1-216-001-00	METAL GLAZE	10	5% 1/10W		R1014 R1015	1-216-057-00 1-216-047-00	METAL GLAZE METAL GLAZE	2.2K 820	5% 5%	1/10W 1/10W	
R38	1-216-001-00	METAL GLAZE		5% 1/10W		R1016	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R40	1-216-053-00	METAL GLAZE		5% 1/10W		R1017	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R44	1-216-065-00			5% 1/10W		R1018	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R45	1-216-073-00	METAL GLAZE	10K	5% 1/10W	,	-4040	4 04 5 04 77 00		45	- 0.	1 /1 055	
716	1 016 005 00	MEMBE OF SER	222	E0. 1 /1 0t/		R1019	1-216-017-00	METAL GLAZE	47 680	5% 5%	1/10W 1/10W	
R46 R47	1-216-085-00 1-216-059-00	METAL GLAZE METAL GLAZE		5% 1/10W 5% 1/10W		R1020 R1022	1-216-045-00 1-216-029-00	METAL GLAZE METAL GLAZE	150	5% 5%	1/10W 1/10W	
R48	1-216-033-00	METAL GLAZE		5% 1/10W		R1024	1-216-051-00	METAL GLAZE		5%	1/10W	
R49	1-216-073-00	METAL GLAZE		5% 1/10W		R1026	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R54	1-216-001-00	METAL GLAZE		5% 1/10W					4 000		4 /4 *	
	1 016 065 00		/ 8**	FO. 4 /4 C==		R1027	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R55 R56	1-216-065-00 1-216-033-00	METAL GLAZE METAL GLAZE	4.7K 220	5% 1/10W 5% 1/10W		R1028 R1029	1-216-037-00 1-216-041-00	METAL GLAZE METAL GLAZE	330 470	5% 5%	1/10W 1/10W	
R56 R57	1-216-033-00	METAL GLAZE	1.5K			R1029	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R58	1-216-097-00		100K			R1033	1-216-295-91		0	5%	1/10W	
R59	1-216-059-00	METAL GLAZE	2.7K									
- 4-			200	F 0 4 14 6==		R1038	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R60	1-216-033-00			5% 1/10W		R1039	1-216-045-00	METAL GLAZE	680	5% 5%	1/10W	
R61 R62	1-216-099-00 1-216-071-00	METAL GLAZE METAL GLAZE	120K 8.2K	5% 1/10W 5% 1/10W		R1050 R1052	1-216-295-91 1-216-057-00		0 2.2K		1/10W 1/10W	
R65	1-216-001-00			5% 1/10W		R1053	1-216-057-00	METAL GLAZE	2.2K		1/10W	
R66	1-216-025-00			5% 1/10W								
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REF.NO.	PART NO.	DESCRIPTION	RI	EMARK	REF.NO.	PART NO.	DESCRIPTION		l	REMARK
R1054 R1055 R1056 R1057 R1058	1-216-057-00 1-216-057-00 1-216-057-00 1-216-057-00 1-216-033-00	METAL GLAZE 2.2K 5% METAL GLAZE 2.2K 5% METAL GLAZE 2.2K 5% METAL GLAZE 2.2K 5% METAL GLAZE 220 5%	1/10W 1/10W 1/10W 1/10W 1/10W		C1136 C1137 C1138 C1139 C1140	1-163-117-00 1-163-038-00 1-163-105-00 1-163-105-00 1-163-117-00	CERAMIC CHIP 10 CERAMIC CHIP 0. CERAMIC CHIP 33 CERAMIC CHIP 33 CERAMIC CHIP 10	1MF PF 5	5% 5% 5%	50V 25V 50V 50V 50V
R1063 R1064 R1065 R1066 R1067	1-216-049-00 1-216-295-91 1-216-067-00 1-216-059-00 1-216-059-00	METAL GLAZE 1K 5% METAL GLAZE 0 5% METAL GLAZE 5.6K 5% METAL GLAZE 2.7K 5% METAL GLAZE 2.7K 5%	1/10W 1/10W 1/10W 1/10W 1/10W	-	C1141 C1142 C1143 C1144 C1145	1-163-141-00 1-163-057-00 1-163-003-11 1-163-121-00 1-163-121-00	CERAMIC CHIP 0. CERAMIC CHIP 0. CERAMIC CHIP 33 CERAMIC CHIP 15 CERAMIC CHIP 15	0068MF 30PF 1	5% 1.0% 5% 5%	50V 50V 50V 50V 50V
	< CRY	STAL >			C1146	1-163-038-00	CERAMIC CHIP 0.			25V
X1		VIBRATOR, CRYSTAL	*****	****	C1147 C1148 C1149 C1150	1-124-477-11 1-164-161-11 1-124-477-11 1-163-038-00	CERAMIC CHIP 0.	.0022MF 1	20% L0% 20%	16V 50V 16V 25V
*******										25V
		A2 BOARD, COMPLETE ***********************************		X2991D)	C1151 C1152 C1153 C1154	1-163-038-00 1-124-477-11 1-163-087-00 1-163-038-00	CERAMIC CHIP 4P CERAMIC CHIP 0.	/MF 2 PF (.1MF	20%).25PF	16V 50V 25V
	*A-1630-271-A	A2 BOARD, COMPLETE (KV-	-X2993E)		C1155	1-124-477-11	ELECT 47	MF 2	20%	16V
	< C1101 - C1	PACITOR > .272 FITTED ON > .X2993E >			C1156 C1157 C1158 C1203 C1204	1-163-009-11 1-163-009-11 1-163-038-00 1-124-927-11 1-124-927-11		.001MF : . .1MF : .7MF : .2	10% 10% 20% 20%	50V 50V 25V 50V 50V
C1101 C1102 C1103 C1104 C1105	1-126-101-11 1-126-101-11	ELECT 100MF	20% 10%	16V 16V 50V 25V 16V	C1205 C1206 C1207 C1208 C1209	1-163-125-00 1-164-004-11 1-163-014-00 1-163-019-00 1-124-657-00	CERAMIC CHIP 22 CERAMIC CHIP 0. CERAMIC CHIP 0. CERAMIC CHIP 0.	.1MF .0027MF .0068MF	5% 10% 10% 10% 20%	50V 25V 50V 50V 50V
C1106 C1107 C1108 C1109 C1110	1-163-205-00	CERAMIC CHIP 180PF CERAMIC CHIP 0.001MF CERAMIC CHIP 0.01MF CERAMIC CHIP 0.022MF CERAMIC CHIP 0.33MF	10%	50V 50V 50V 50V 25V	C1210 C1211 C1212 C1213 C1214	1-124-907-11 1-163-101-00 1-163-101-00 1-164-004-11 1-164-182-11	CERAMIC CHIP 22 CERAMIC CHIP 22 CERAMIC CHIP 0. CERAMIC CHIP 0.	PF PF .1MF	20% 5% 5% 10% 10%	50V 50V 50V 25V 50V
C1111 C1112 C1113 C1114 C1115	1-163-009-11 1-164-161-11 1-124-477-11 1-163-038-00 1-124-477-11	CERAMIC CHIP 0.0022MF ELECT 47MF CERAMIC CHIP 0.1MF	10% 20%	50V 50V 16V 25V 16V	C1215 C1216 C1217 C1218 C1219	1-124-910-11 1-124-927-11 1-124-927-11 1-124-927-11 1-124-927-11	ELECT 4. ELECT 4.	.7MF .7MF .7MF	20% 20% 20% 20% 20%	50V 50V 50V 50V 50V
C1116 C1117 C1118 C1119 C1120	1-163-113-00	MYLAR 0.22MF CERAMIC CHIP 0.22MF CERAMIC CHIP 68PF CERAMIC CHIP 330PF CERAMIC CHIP 330PF	5% 5%	100V 25V 50V 50V 50V	C1220 C1221 C1222 C1223 C1224	1-124-927-11 1-124-927-11 1-163-014-00 1-163-014-00 1-124-927-11	ELECT 4. CERAMIC CHIP 0. CERAMIC CHIP 0.	.7MF .0027MF .0027MF	20% 20% 10% 10% 20%	50V 50V 50V 50V 50V
C1121 C1122 C1123 C1124 C1125	1-163-113-00 1-163-081-00 1-106-228-00 1-124-477-11 1-124-477-11	ELECT 47MF	5% 10% 20% 20%	50V 25V 100V 16V 16V	C1225 C1226 C1227 C1228 C1230	1-124-927-11 1-124-910-11 1-163-019-00 1-163-019-00 1-126-101-11	ELECT 47 CERAMIC CHIP 0. CERAMIC CHIP 0.	7MF .0068MF .0068MF	20% 20% 10% 10% 20%	50V 50V 50V 50V 16V
C1126 C1127 C1128 C1129 C1130	1-163-038-00 1-124-477-11 1-163-038-00	CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF ELECT 47MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.001MF	20%	25V 25V 16V 25V 50V	C1231 C1232 C1233 C1234 C1235	1-164-232-11 1-126-101-11 1-164-505-11 1-163-009-11 1-163-009-11	ELECT 10 CERAMIC CHIP 2 CERAMIC CHIP 0	00MF .2MF .001MF	10% 20% 10% 10%	50V 16V 16V 50V 50V
C1131 C1132 C1133 C1134 C1135	1-163-077-91 1-124-907-11 1-163-009-11	CERAMIC CHIP 0.01MF CERAMIC CHIP 0.1MF ELECT 10MF CERAMIC CHIP 0.001MF CERAMIC CHIP 0.1MF	20% 10%	50V 50V 50V 50V 25V	C1236 C1237 C1245 C1246 C1247	1-124-927-11 1-124-927-11 1-163-131-00 1-163-131-00 1-163-131-00	ELECT 4 CERAMIC CHIP 3	.7MF 90PF 90PF	20% 20% 10% 10% 10%	50V 50V 50V 50V 50V



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REF.NO.	PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK	
C1251 C1252 C1253 C1254 C1255	1-163-014-00 1-163-014-00	CERAMIC CHIP 0.001MF CERAMIC CHIP 0.0012M CERAMIC CHIP 0.0027M CERAMIC CHIP 0.0027M CERAMIC CHIP 0.01MF	? 10%	50V 50V 50V 50V 50V	C2236 C2237 C2238 C2239	1-124-478-11 1-124-478-11 1-136-165-00 1-136-165-00	ELECT 100MF FILM 0.1MF	20% 25V 20% 25V 5% 50V 5% 50V	
C1256 C1257 C1258 C1259 C1260	1-163-986-00 1-164-004-11	CERAMIC CHIP 0.012MF CERAMIC CHIP 0.027MF CERAMIC CHIP 0.027MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.12MF	10% 10% 10% 10% 10%	50V 25V 25V 25V 25V	BP1101 CF1102	1-239-047-11	FILTER, BAND PASS (1 TRAP, CERAMIC (5.5MH)		
C1261 C1262 C1263 C1264 C1265	1-163-009-11 1-163-010-11 1-163-014-00 1-163-014-00		10% F 10% F 10%	50V 50V 50V 50V 50V	CN2201		NNECTOR > CONNECTOR, BOARD TO D DDE >	BOARD 40P	
C1266 C1267 C1268 C1269 C1270	1-163-022-00 1-163-986-00 1-163-986-00 1-164-004-11	CERAMIC CHIP 0.012MF CERAMIC CHIP 0.027MF CERAMIC CHIP 0.027MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.12MF	10% 10% 10% 10% 10%	50V 25V 25V 25V 25V 25V	D1101 D1102 D1103 D1201 D2201	<pre></pre>	L201 FITTED ON > -X2993E > DIODE DAN202K DIODE 1SV217 DIODE 1SV214 DIODE DAN202K DIODE DAN202K	91A, X-2991B, X2991D)	
C1272	1-124-910-11		20%	50V		< FEF	RRITE BEAD > (KV-X2993)	E)	
C2201 C2202 C2203 C2204 C2205	< KV-X2991A, 1-130-489-00 1-130-489-00 1-164-005-11	X2993B, X2991D > FILM	5% 5% 20%	50V 50V 25V 25V 50V	FB1101 FB1104 FB1105	1-410-396-41 1-410-396-41 < IC < IC1101 - IC	FERRITE BEAD INDUCTOR FERRITE BEAD INDUCTOR FERRITE BEAD INDUCTOR > C1251 FITTED ON > -X2993E >	R 0.45UH	
C2206 C2207 C2208 C2209 C2210	1-137-613-11 1-164-005-11 1-164-005-11 1-164-005-11	CERAMIC CHIP 0.47MF CERAMIC CHIP 0.47MF CERAMIC CHIP 0.47MF		50V 100V 25V 25V 25V	IC1101 IC1102 IC1201 IC1202 IC1203	8-759-511-88 8-759-184-28 8-759-145-58 8-759-145-58 8-759-145-58	IC TDA8732 IC SAA7282-ZP IC μPC4558C IC μPC4558C		
C2211 C2212 C2213 C2214 C2215	1-164-005-11		20% 20%	25V 25V 25V 50V 50V	IC1204 IC1251 IC2201 IC2202	8-759-503-59 8-759-257-64 8-759-267-97 8-759-502-21		91A, X-2991B, X2991D) 1A, X-2991B, X2991D)	
C2216 C2217 C2218 C2219 C2220	1-163-019-00 1-163-809-11	CERAMIC CHIP 0.0068M CERAMIC CHIP 0.0068M CERAMIC CHIP 0.047MF CERAMIC CHIP 0.047MF ELECT 2.2MF	F 10% 10%	50V 50V 25V 25V 50V		< KV-	1251 FITTED ON > -X2993E >		
C2221 C2222 C2223 C2224 C2225	1-164-005-11 1-164-005-11	CERAMIC CHIP 0.47MF CERAMIC CHIP 0.47MF CERAMIC CHIP 0.47MF CERAMIC CHIP 0.47MF	20%	50V 16V 16V 16V 16V	L1101 L1102 L1103 L1104 L1201	1-408-405-00 1-408-405-00 1-410-119-11 1-410-119-11 1-408-421-00	INDUCTOR 4.7UH INDUCTOR 1MMH INDUCTOR 1MMH INDUCTOR 100UH	I	
C2226 C2227 C2228 C2229 C2230	1-163-011-11	CERAMIC CHIP 0.0015M CERAMIC CHIP 0.0015M ELECT 2.2MF ELECT 2.2MF	F 10% F 10% 20% 20% 5%	50V 50V 50V 50V 50V	L1202 L1251 L2201	1-408-421-00 1-408-421-00 1-407-500-00	INDUCTOR 100UH INDUCTOR 4.7MM	I IH LA, X-2991B, X2991D)	
C2231 C2232 C2233 C2234 C2235	1-136-177-00 1-164-182-11 1-163-007-11 1-124-907-11 1-124-907-11	CERAMIC CHIP 0.0033M CERAMIC CHIP 680PF ELECT 10MF	5% F 10% 10% 20% 20%	50V 50V 50V 50V 50V	Q1101 Q1102 Q1103 Q1104 Q1105	8-729-920-74 8-729-920-74 8-729-920-74	TRANSISTOR 2SC2412K- TRANSISTOR 2SC2412K- TRANSISTOR 2SC2412K- TRANSISTOR 2SC2412K- TRANSISTOR 2SC2412K-	-QR -QR -QR	
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REF.NO.	PART NO.	DESCRIPTION	REMA	REF.NO.	PART NO.	DESCRIPTIO	N -	REMARK
Q1106 Q1107 Q1108 Q1201 Q1202	8-729-920-74 8-729-920-74 8-729-920-74 8-729-920-74 8-729-920-74	TRANSISTOR 2SC241 TRANSISTOR 2SC241 TRANSISTOR 2SC241 TRANSISTOR 2SC241 TRANSISTOR 2SC241	2K-QR 2K-QR 2K-QR	R1127 R1128 R1129 R1130	1-216-097-00 1-216-089-91 1-216-089-91 1-216-097-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	100K 5 47K 5 47K 5 100K 5	% 1/10W % 1/10W % 1/10W
Q1251 Q1252	8-729-901-01 8-729-901-01	TRANSISTOR DTC144 TRANSISTOR DTC144		R1131 R1132 R1133 R1134 R1135	1-216-069-00 1-216-097-00 1-216-089-91 1-216-212-00 1-216-081-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	3.9K 5	% 1/10W % 1/10W
JR1101 JR2201 JR2202	1-216-296-91 1-216-295-91 1-216-295-91	METAL GLAZE 0	5% 1/8W 5% 1/10W 991A, X-2991B, X29 5% 1/10W 991A, X-2991B, X29	R1139	1-216-081-00 1-216-095-00 1-216-097-00 1-216-005-00 1-216-061-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	82K 5 100K 5 15 5	% 1/10W % 1/10W % 1/10W % 1/10W % 1/10W
JR2203 JR2204 JR2205	1-216-295-91 1-216-295-91 1-216-295-91	METAL GLAZE 0	5% 1/10W 991A, X-2991B, X29 5% 1/10W 991A, X-2991B, X29 5% 1/10W	R1143	1-216-061-00 1-216-033-00 1-216-049-00 1-216-049-00 1-216-025-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	220 5 1K 5 1K 5	% 1/10W % 1/10W % 1/10W % 1/10W % 1/10W
JR2206 JR2207 JR2208 JR2209 JR2210	1-216-295-91 1-216-296-91 1-216-295-91 1-216-295-91 1-216-295-91	METAL GLAZE 0	5% 1/10W 5% 1/8W 5% 1/10W 5% 1/10W 5% 1/10W	R1146 R1147 R1148 R1149 R1150	1-216-049-00 1-216-045-00 1-216-049-00 1-216-025-00 1-216-045-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	680 5 1K 5 100 5	% 1/10W % 1/10W % 1/10W % 1/10W % 1/10W
JR2211 JR2212 JR2213 JR2214 JR2215	1-216-295-91 1-216-296-91 1-216-295-91 1-216-296-91 1-216-296-91		5% 1/10W 5% 1/8W 5% 1/10W 5% 1/8W 5% 1/8W	R1151 R1152 R1153 R1154 R1201	1-216-049-00 1-216-049-00 1-216-049-00 1-216-041-00 1-216-103-91	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	1K 5 1K 5 470 5	% 1/10W % 1/10W % 1/10W % 1/10W % 1/10W
JR2216 JR2217			5% 1/10W 5% 1/8W	R1202 R1203 R1204 R1205 R1206	1-216-107-00 1-216-073-00 1-216-083-00 1-216-103-91 1-216-107-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	10K 5 27K 5 180K 5	5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W
R1101 R1102 R1103 R1104 R1105	1-216-039-00 1-216-049-00 1-216-049-00 1-216-041-00 1-216-005-00	METAL GLAZE 1K METAL GLAZE 1K METAL GLAZE 470	5% 1/10W 5% 1/10W	R1207 R1208 R1209 R1210 R1211	1-216-073-00 1-216-083-00 1-216-083-00 1-216-073-00 1-216-025-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	27K 5 27K 5 10K 5	5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W
R1106 R1107 R1108 R1109 R1110	1-216-036-00 1-216-042-00 1-216-063-00 1-216-053-00 1-216-047-00	METAL GLAZE 510 METAL GLAZE 3.9 METAL GLAZE 1.5) 5% 1/10W 9K 5% 1/10W 5K 5% 1/10W	R1212 R1213 R1214 R1215 R1216	1-216-073-00 1-216-073-00 1-216-073-00 1-216-089-91 1-216-113-00	METAL GLAZE METAL GLAZE	10K 5 10K 5 47K 5	5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W
R1111 R1112 R1113 R1114 R1115	1-216-041-00 1-216-051-00 1-216-001-00 1-216-105-00 1-216-121-00	METAL GLAZE 1.2 METAL GLAZE 10 METAL GLAZE 220	2K 5% 1/10W 5% 1/10W	R1217 R1218 R1219 R1220 R1221	1-216-073-00 1-216-121-00 1-216-113-00 1-216-113-00 1-216-113-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	1M 5 470K 5 470K 5	5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W
R1116 R1117 R1118 R1119 R1120	1-216-049-00 1-216-097-00 1-216-097-00 1-216-073-00 1-216-083-00	METAL GLAZE 100 METAL GLAZE 100 METAL GLAZE 105	OK 5% 1/10W K 5% 1/10W	R1222 R1223 R1224 R1225 R1226	1-216-073-00 1-216-073-00 1-216-073-00 1-216-113-00 1-216-113-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	10K 5 10K 5 470K 5	5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W
R1121 R1122 R1123 R1124 R1125	1-216-081-00 1-216-158-00 1-216-158-00 1-216-089-91 1-216-097-00	METAL GLAZE 22 METAL GLAZE 22 METAL GLAZE 47F	5% 1/8W 5% 1/8W K 5% 1/10W	R1227 R1228 R1229 R1230 R1231	1-216-113-00 1-216-073-00 1-216-073-00 1-216-073-00 1-216-073-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	10K 5 10K 5 10K 5	5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W
R1126	1-216-069-00	METAL GLAZE 6.8	3K 5% 1/10W	R1232	1-216-073-00	METAL GLAZE	10K !	5% 1/10W

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REF.NO.	PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTION	ı	REMARK
R1233 R1234 R1235	1-216-049-00 1-216-049-00 1-216-073-00	METAL GLAZE 1K METAL GLAZE 1K METAL GLAZE 10K	5% 5% 5%	1/10W 1/10W 1/10W	R2220 R2221	1-216-065-00 1-216-091-00	METAL GLAZE 4.7K METAL GLAZE 56K	5% 1/10W 5% 1/10W	
R1236	1-216-073-00	METAL GLAZE 10K	5%	1/10W		< CRY	STAL > (KV-X2993E)		
R1237 R1238 R1240 R1241 R1242	1-216-049-00 1-216-065-00 1-216-025-00 1-216-025-00 1-216-025-00	METAL GLAZE 1K METAL GLAZE 4.7 METAL GLAZE 100 METAL GLAZE 100 METAL GLAZE 100	5% 5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	X1101 X1102 X1201	1-579-282-21 1-567-307-11	VIBRATOR, CRYSTAL VIBRATOR, CRYSTAL OSCILLATOR, CRYSTAL	*****	****
R1243 R1245 R1246 R1247 R1251	1-216-025-00 1-216-073-00 1-216-073-00 1-216-073-00 1-216-089-91	METAL GLAZE 100 METAL GLAZE 10K METAL GLAZE 10K METAL GLAZE 10K METAL GLAZE 47K	5% 5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W			A BOARD, COMPLETE (F	LA, X2991D, X KV-X2993B)	X2993E)
R1252 R1253 R1254 R1255 R1256	1-216-065-00 1-216-089-91 1-216-065-00 1-216-089-91 1-216-065-00	METAL GLAZE 4.7% METAL GLAZE 47K	5% K 5%	1/10W 1/10W 1/10W 1/10W 1/10W	C071 C072 C073	< CA 1-126-803-11 1-124-120-11 1-126-101-11	ELECT 220MF	20% 20% 20%	10V 16V 16V
R1257 R1258 R1259	1-216-089-91 1-216-065-00 1-216-089-91	METAL GLAZE 4.78 METAL GLAZE 47K	X 5% 5%	1/10W 1/10W 1/10W	C074 C103	1-163-001-11 1-163-031-11	CERAMIC CHIP 220PF CERAMIC CHIP 0.01MF	10%	50V 50V
R1260 R1261 R1262	1-216-065-00 1-216-089-91 1-216-065-00	METAL GLAZE 47K	X 5% 5% X 5%	1/10W 1/10W	C104 C105 C106 C110	1-124-910-11 1-124-916-11 1-124-927-11 1-164-005-11	ELECT 22MF	20% 20% 20%	50V 50V 50V 25V
R1263 R1264 R1265	1-216-089-91 1-216-065-00 1-216-089-91	METAL GLAZE 4.7	K 5%	1/10W 1/10W 1/10W 1/10W	C120 C125 C208	1-163-031-11 1-126-101-11 1-164-005-11		20%	16V 25V
R1266 R1267 R1268	1-216-065-00 1-216-089-91 1-216-065-00	METAL GLAZE 47K METAL GLAZE 4.7	5% K 5%	1/10W 1/10W 1/10W	C217 C218 C231	1-104-003-11 1-124-925-11 1-124-925-11 1-164-346-11	ELECT 2.2MF ELECT 2.2MF CERAMIC CHIP 1MF	20% 20%	50V 50V 16V
R1269 R1270 R1271	1-216-089-91 1-216-065-00 1-216-025-00	METAL GLAZE 4.71 METAL GLAZE 100	X 5% 5%	1/10W 1/10W	C232 C233 C234	1-163-005-11	CERAMIC CHIP 0.001MM CERAMIC CHIP 470PF		50V 50V 50V 63V
R1272 R1290	1-216-025-00 1-216-049-00	METAL GLAZE 100 METAL GLAZE 1K	5% 5%	1/10W 1/10W	C235 C236	1-130-772-00 1-124-618-11	FILM 0.22MF ELECT 2200MF	20%	35V
<pre> < rank</pre>		251 FITTED ON > 3B, X2991D, X2993E	> K 0.50%	1/10W	C237 C238 C239 C240	1-124-618-11 1-163-005-11 1-130-772-00 1-124-916-11	CERAMIC CHIP 470PF FILM 0.22MF	20% 10% 5% 20%	35V 50V 63V 50V
R2202 R2203 R2204	1-216-662-11 1-216-661-11 1-216-662-11	METAL CHIP 3K METAL CHIP 2.7	0.50% K 0.50%	1/10W	C241 C242	1-124-916-11	ELECT 22MF	20% 20%	50V 50V
R2205 R2206	1-216-067-00 1-216-071-00		K 5% K 5%	1/10W 1/10W (KV-X2993E)	C244 C248 C249 C250	1-164-222-11 1-163-185-00 1-163-129-00 1-124-478-11	CERAMIC CHIP 150PF CERAMIC CHIP 330PF	5% 5% 20%	25V 50V 50V 25V
	1-216-081-00	METAL GLAZE 22K		1/10W 991B, X2991D)	C280	1-126-320-11		20%	16V
R2207	1-216-057-00		K 5%	1/10W	C290 C682		CERAMIC CHIP 1MF	20%	16V 16V
R2208	1-216-071-00	METAL GLAZE 8.2	K 5%	1/10W (KV-X2993E)	C683 C684	1-124-478-11 1-126-101-11	ELECT 100MF	20% 20%	25V 16V
	1-216-081-00	(KV-X29	91A, X-2	1/10W 991B, X2991D)	C685	1-124-478-11		20%	25V
R2209	1-216-057-00		K 5%	1/10W	C1351 C1352	1-164-346-11	CERAMIC CHIP 1MF		16V 16V
R2210 R2211 R2216	1-216-025-00 1-216-025-00 1-216-295-91	METAL GLAZE 100	5% 5% 5%	1/10W 1/10W 1/10W	C1353 C1356	1-164-346-11 1-163-038-00	CERAMIC CHIP 1MF CERAMIC CHIP 0.1MF		16V 25V
R2217 R2218	1-216-295-91 1-249-389-11		5% 5%	1/10W 1/4W F	C1357 C1358 C1359	1-163-037-11	CERAMIC CHIP 0.022MI CERAMIC CHIP 0.022MI		16V 25V 25V
R2219	1-249-389-11	CARBON 4.7	5%	1/4W F	C1360	1-164-005-11	CERAMIC CHIP 0.47MF		25V

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C1362	1-124-927-11	ELECT 4.7MF	20% 50V	D211	8-719-901-33	DIODE 1SS133T	
C1363 C1364			10% 25V 10% 25V 91D. X2993E)	D212 D213 D215	8-719-914-43 8-719-914-42	DIODE 1SS133T DIODE DAN202K DIODE DA204K	
C1365 C1366	1-164-004-11 1-163-809-11	CERAMIC CHIP 0.1MF	10% 25V 10% 25V	D216 D314	8-719-914-42 8-719-914-43	DIODE DA204K DIODE DAN204K	
C1368 C1370	1-164-004-11 1-163-809-11		10% 25V 10% 25V 91D X2993E)	D681 D682 D683 D1351	8-719-110-03	DIODE DAP202K DIODE RD7.5ESB2 DIODE RD5.6ESB2 DIODE 1SS133	
C1372 C1373	1-164-232-11 1-164-336-11		10% 50V 25V	D1352	8-719-914-43	DIODE DAN202K	
C1374 C1375 C1376 C1378 C1379	1-164-004-11	CERAMIC CHIP 0.01MF CERAMIC CHIP 0.1MF CERAMIC CHIP 680PF	20% 50V 10% 50V 10% 25V 10% 50V 10% 25V	D1353 D1354 D1355 D1356	8-719-914-43 8-719-914-43	DIODE DAN202K DIODE DAN202K DIODE DAN202K DIODE DAN202K (KV-X2991A	, X2991D, X2993E)
C1380 C1381	1-164-232-11 1-124-903-11	CERAMIC CHIP 0.01MF ELECT 1MF	10% 50V 20% 50V	D1357 D1358 D1359	8-719-914-43	DIODE DAN202K DIODE DAN202K DIODE DAN202K	
C1382 C1383 C1384	1-163-105-00	CERAMIC CHIP 33PF	10% 50V 5% 50V 10% 25V		< IC	>	
C1385 C1386 C1387	1-164-232-11 1-164-232-11 1-164-232-11	CERAMIC CHIP 0.01MF CERAMIC CHIP 0.01MF CERAMIC CHIP 0.01MF	10% 50V 10% 50V 10% 50V	IC072 IC251	8-759-072-99 4-201-023-01	IC ST24C16CB1 IC TDA2052 SPACER, INSULATING; SPRING, IC; IC251	IC251
C1390		•	10% 50V	IC261	8-759-072-99 4-201-023-01	IC TDA2052 SPACER, INSULATING;	TC261
CN0001		NECTOR > PLUG, CONNECTOR 5P		IC681	4-202-373-01	SPRING, IC; IC261 IC SI-3120CA	10201
CN0101 CN0102 CN0103	1-695-298-11 1-695-298-11 *1-564-513-11	CONNECTOR, BOARD TO BOARD CONNECTOR, BOARD TO BOARD PLUG, CONNECTOR 10P	0 40P 0 40P	IC682	8-749-920-43	SCREW (M3X10), P, SW IC SI-3050CA	\$.
CN0104		PLUG, CONNECTOR 8P PIN, CONNECTOR 7P		IC684	8-759-701-59	SCREW (M3X10), P, SW IC NJM78M09FA SPRING, TRANSISTOR	(+)
CNO105 CNO106 CN0107	*1-568-880-51 *1-568-879-11	PIN, CONNECTOR 5P (KV-X29 PIN, CONNECTOR 4P		IC685	8-759-510-52	IC TEA7605	
CN0109 CN0110	*1-568-882-51	CONNECTOR, BOARD TO BOARD PIN, CONNECTOR 7P		IC1351 IC1352 IC1353	8-759-007-21 8-759-145-58		
CN0113 CN0119	*1-568-880-51	CONNECTOR, BOARD TO BOARD PIN, CONNECTOR 5P CONNECTOR, BOARD TO BOARD		IC1354	8-759-103-93	BLOCK >	
CN0145 CN0146 CN0150	*1-564-514-11	PLUG, CONNECTOR 11P PIN, CONNECTOR 6P		IFB101		IF BLOCK (IFH-389)	
CN0151		PIN, CONNECTOR 4P		IFB101		(KV-X2991A IF BLOCK (IFH-389FX)	, X2991D, X2993E) (KV-X2993B)
		DDE >			< COI	L >	
D068 D069 D071 D073 D075	8-719-914-44 8-719-109-89 8-719-109-89	DIODE DAP202K DIODE DAP202K DIODE RD5.6ESB2 DIODE RD5.6ESB2 DIODE DAN202K		L101 L105 L1351 L1352 L1353	1-412-546-41 1-412-546-41 1-216-295-91 1-216-295-91 1-408-403-00	INDUCTOR 560UH METAL GLAZE 0 METAL GLAZE 0	5% 1/10W 5% 1/10W
D077 D078 D079	8-719-109-89 8-719-109-89	DIODE DAN202K DIODE RD5.6ESB2 DIODE RD5.6ESB2		L1354 L1355	1-408-403-00 1-408-403-00	INDUCTOR 3.3UH	
D101 D206	8-719-982-27 8-719-914-43	DIODE MTZJ-33C DIODE DAN202K		Q071		INSISTOR > TRANSISTOR DTC124EK	
D207 D208 D209 D210	8-719-901-33 8-719-901-33	DIODE 1SS133T DIODE 1SS133T DIODE 1SS133T DIODE 1SS133T		Q101 Q102 Q103 Q106	8-729-216-22 8-729-901-00 8-729-901-00	TRANSISTOR 2SA1162-G TRANSISTOR DTC124EK TRANSISTOR DTC124EK TRANSISTOR 2SC2412K-	



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REF.NO.	PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTION	<u>N</u>		REMARK
Q107 Q108 Q201	8-729-216-22	TRANSISTOR 2SC2412 TRANSISTOR 2SA1162 TRANSISTOR 2SC2412	-G		R119 R123	1-216-025-00 1-216-295-91		100 0	5% 5%	1/10W 1/10W
Q202 Q203		TRANSISTOR 2SC2412	K-QR		R201 R202	1-216-295-91 1-216-295-91	METAL GLAZE	0	5% 5%	1/10W 1/10W
Q204 Q205	8-729-216-22 8-729-216-22	TRANSISTOR 2SA1162	-G	:	R210 R211 R212	1-247-734-11 1-247-734-11 1-216-049-00	CARBON	39 39 1K	5% 5% 5%	1/2W 1/2W 1/10W
Q206 Q207 Q209		TRANSISTOR 2SA1162 TRANSISTOR 2SC2412 TRANSISTOR 2SA1162	K-QR		R213 R214	1-216-073-00 1-216-049-00	METAL GLAZE	10K 1K	5% 5%	1/10W 1/10W
Q210 Q317	8-729-920-74	TRANSISTOR 2SC2412	K-QR		R215 R216 R217	1-216-073-00 1-216-049-00 1-216-043-00		10K 1K 560	5% 5% 5%	1/10W 1/10W 1/10W
Q681 Q682 Q683	8-729-920-74	TRANSISTOR 2SD774- TRANSISTOR 2SC2412 TRANSISTOR 2SA1162	K-QR		R218 R221	1-216-081-00 1-211-771-11	FUSIBLE	22K 4.7	5% 5%	1/10W 1/4W F
Q1351	0_720_020_7#	TRANSISTOR 2SC2412	V_∩ D		R222 R223	1-216-049-00 1-216-043-00		1K 560	5% 5%	1/10W 1/10W
Q1358 Q1359	8-729-216-22 8-729-931-02	TRANSISTOR 2SA1162 TRANSISTOR 2SC2413	-G K-Q		R224	1-249-433-11	CARBON	22K 4.7	5% 5%	1/4W F
Q1360 Q1361	8-729-216-22 8-729-216-22	TRANSISTOR 2SA1162 TRANSISTOR 2SA1162			R225 R226 R227	1-211-771-11 1-249-412-11 1-216-081-00	CARBON	390 22K	5% 5%	1/4W F 1/4W 1/10W
Q1362	8-729-900-53	TRANSISTOR DTC114E	K		R228	1-216-081-00		22K	5%	1/10W
Q1363		TRANSISTOR 2SC2412	K-QR	į	R229	1-216-039-00		390	5% 	1/10W
	< RES	SISTOR >			R230 R231	1-216-246-91 1-216-097-00		100K 100K	5% 5%	1/8W 1/10W
JR110	1-216-295-91	METAL GLAZE 0	5% 1/3	10W	R231	1-216-037-00		22K	5%	1/10W
JR111	1-216-295-91	METAL GLAZE 0	5% 1/:	10W	R233	1-216-071-00	METAL GLAZE	8.2K		1/10W
JR113 JR114	1-216-295-91 1-216-295-91	METAL GLAZE 0	5% 1/	10W 10W	R234	1-216-069-00		6.8K		1/10W
JR271	1-216-295-91			10W	R235 R236	1-216-073-00 1-216-081-00	METAL GLAZE	10K 22K 0	5% 5% 5%	1/10W 1/10W 1/10W
JR272 JR1351	1-216-295-91 1-216-295-91			10W 10W	R239 R241	1-216-295-91 1-216-065-00		4.7K		1/10W 1/10W
JR1352	1-216-295-91	METAL GLAZE 0	5% 1/3	10W	R242	1-216-295-91	METAL GLAZE	0	5%	1/10W
JR1353 JR1355	1-216-295-91 1-216-295-91	METAL GLAZE 0 METAL GLAZE 0		10W 10W	R244	1-216-069-00		6.8K		1/10W
TD1000	1 016 005 01		E0. 1/	1.017	R245	1-216-089-91 1-216-097-00	METAL GLAZE	47K 100K	5% 5%	1/10W 1/10W
JR1357 JR1358	1-216-295-91 1-216-296-91		5% 1/3 5% 1/3	10W RW	R246 R247	1-216-097-00		100K	5%	1/10W 1/10W
JR1359 JR1360	1-216-296-91 1-216-296-91	METAL GLAZE 0	5% 1/3 5% 1/3	8W	R248	1-216-025-00		100	5%	1/10W
JR1361	1-216-296-91		5% 1/		R250	1-216-095-00		82K	5%	1/10W
TT 10.00	1 015 005 01	100m2	FO. 1/	014	R251	1-216-057-00	METAL GLAZE	2.2K	5% 5%	1/10W 1/10W
JR1362 JR1363	1-216-296-91 1-216-296-91		5% 1/3 5% 1/3		R252 R253	1-216-073-00 1-216-073-00	METAL GLAZE METAL GLAZE	10K 10K	5% 5%	1/10W 1/10W
JR1364	1-216-295-91			10W	R254	1-216-252-00	METAL GLAZE	180K		1/8W
R071 R072	1-249-413-11 1-216-033-00	CARBON 470 METAL GLAZE 220	5% 1/4 5% 1/2	4W 10W	R255 R256	1-216-252-00 1-247-807-31	METAL GLAZE CARBON	180K 100	5% 5%	1/8W 1/4W
R073	1-216-033-00	METAL GLAZE 220		10W						(KV-X2993B)
R074 R076	1-216-049-00 1-216-057-00	METAL GLAZE 1K METAL GLAZE 2.2K		10W 10W	R256	1-249-409-11		220 X2991A	5% ., X29	1/4W 991D, X2993E)
R077 R101	1-216-025-00 1-216-025-00	METAL GLAZE 100 METAL GLAZE 100		10W 10W	R257	1-247-807-31	CARBON	100	5%	1/4W (KV-X2993B)
R102	1-216-049-00	METAL GLAZE 1K		10W	R257	1-249-409-11		220	5%	1/4W
R103 R105	1-216-059-00 1-216-073-00	METAL GLAZE 2.7K METAL GLAZE 10K		10W 10W	R258	1-216-089-91		-X2991A 47K	, X29 5%	91D, X2993E) 1/10W
R108	1-216-081-00	METAL GLAZE 22K		10W	R259 R260	1-216-063-00 1-216-063-00	METAL GLAZE METAL GLAZE	3.9K 3.9K	5% 5%	1/10W 1/10W
R109 R110	1-216-045-00 1-216-045-00	METAL GLAZE 680 METAL GLAZE 680	5% 1/. 5% 1/:	10W 10W	R260 R294	1-216-083-00	METAL GLAZE	330	5%	1/10W 1/10W
R111	1-216-033-00	METAL GLAZE 220	5% 1/3		R295	1-216-027-00	METAL GLAZE	120	5%	1/10W
R115	1-216-061-00	METAL GLAZE 3.3K	5% 1/	LOW	R296	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R116	1-215-901-00	METAL OXIDE 33K		F	R391	1-216-069-00	METAL GLAZE		5%	1/10W
R117 R118	1-216-045-00 1-216-045-00	METAL GLAZE 680 METAL GLAZE 680		10W 10W	R392 R393	1-216-061-00 1-216-073-00	METAL GLAZE METAL GLAZE	3.3K 10K	5% 5%	1/10W 1/10W
*****	7 770 047-00		~ · · · · · · · · · · · · · · · · · · ·			0/0		_ •••	_ ,	-,

$ \mathbf{A} \mathbf{H} \left(\begin{array}{c} KV-A2991A/A2991D/ \\ X2993E \end{array} \right)$	A IF (KV-X2991A/X2991 X2993E	0/)
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				DEM. D.	DEFNO		DESCRIPTION	\ <u></u>			
REF.NO.	PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTIO	N -			REMARK
R394 R395	1-216-081-00 1-216-091-00	METAL GLAZE 22K METAL GLAZE 56K (KV-X2991	5% 5% A, X299	1/10W 1/10W 1D, X2993E)	R1396 R1397 R1399	1-216-079-00 1-216-089-91 1-216-089-91	METAL GLAZE METAL GLAZE METAL GLAZE	18K 47K 47K	5% 5% 5%	1/10W 1/10W 1/10W	
R396 R623 R685 R691 R692	1-216-081-00 1-216-065-00 1-216-295-91 1-249-421-11 1-216-385-11	METAL GLAZE 22K METAL GLAZE 4.7K METAL GLAZE 0 CARBON 2.2K METAL OXIDE 0.47	5%	1/10W 1/10W 1/10W 1/4W 3W F	R2301 R2302 R2303 R2304 R2305	1-216-025-00 1-216-113-00 1-216-057-00 1-216-057-00 1-216-683-11	METAL GLAZE METAL GLAZE METAL GLAZE METAL CHIP	100 470K 2.2K 2.2K 22K	5% 5% 5% 5% 0.50%	1/10W 1/10W 1/10W 1/10W 1/10W	
R693 R694 R695 R696 R697	1-216-073-00 1-216-471-11 1-216-065-00 1-216-067-00 1-216-073-00	METAL GLAZE 10K METAL OXIDE 27 METAL GLAZE 4.7K METAL GLAZE 5.6K METAL GLAZE 10K		1/10W 3W F 1/10W 1/10W 1/10W	R2306 R2307 R2308 R2309 R2310	1-216-659-11 1-216-073-00 1-216-073-00 1-216-081-00 1-216-683-11	METAL CHIP METAL GLAZE METAL GLAZE METAL CHIP	2.2K 10K 10K 22K 22K	0.50% 5% 5% 5% 0.50%	1/10W 1/10W 1/10W 1/10W 1/10W	
R1351 R1352 R1354 R1355 R1356	1-216-067-00 1-216-043-00 1-216-025-00 1-216-171-00 1-216-043-00	METAL GLAZE 5.6K METAL GLAZE 560 METAL GLAZE 100 METAL GLAZE 75 METAL GLAZE 560	5% 5% 5% 5%	1/10W 1/10W 1/10W 1/8W 1/10W	R2311 R2313 R2314 R2316 R2318	1-216-049-00 1-216-081-00 1-216-037-00 1-216-295-91 1-216-295-91	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	1K 22K 330 0	5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
R1357 R1358 R1359 R1361	1-216-049-00 1-216-295-91 1-216-295-91 1-216-057-00	METAL GLAZE 1K METAL GLAZE 0 METAL GLAZE 0 METAL GLAZE 2.2K		1/10W 1/10W 1/10W 1/10W	R2320 R2321 R2322	1-216-069-00 1-216-053-00 1-216-015-00	METAL GLAZE METAL GLAZE METAL GLAZE	39	5% 5% 5%	1/10W 1/10W 1/10W	
		(KV-X299	1A, X29	91D, X2993E)		< VAR	IABLE RESISTOR	>			
R1362 R1363 R1364 R1364	1-216-647-11 1-216-655-11 1-216-641-11 1-216-641-11	METAL CHIP 680 METAL CHIP 1.5K METAL CHIP 390 METAL CHIP 680	0.50% 0.50%	1/10W 1/10W 1/10W 1/10W	RV101	1-241-760-21 < TUN	RES, ADJ, CER ER >	MET 470)		
R1365	1-216-641-11	METAL CHIP 390		1/10W	TU101	1-693-185-11	TUNER (UV916H)			
R1365 R1366 R1367 R1368 R1369	1-216-641-11 1-208-789-11 1-216-633-11 1-216-657-11 1-216-647-11	METAL CHIP 2K METAL CHIP 180	0.50% 0.50% 0.50%	1/10W 1/10W 1/10W 1/10W 1/10W	******	************** 1-466-733-11	IF BLOCK (IFH	-389)			
R1370 R1370 R1371 R1372 R1373	1-216-641-11 1-216-641-11 1-216-053-00 1-216-057-00 1-216-053-00	METAL CHIP 390 METAL CHIP 680 METAL GLAZE 1.5K METAL GLAZE 2.2K METAL GLAZE 1.5K	0.50% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	C101 C102 C103 C104	CAP 1-163-121-00 1-164-222-11 1-164-232-11 1-164-232-11	ACITOR > CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	0.22MF 0.01MF	:	5% 10% 10%	50V 25V 50V 50V
R1374 R1375 R1376 R1377 R1378	1-216-115-00 1-216-033-00 1-216-637-11 1-216-638-11 1-216-638-11	METAL CHIP 300 METAL CHIP 300	5% 0.50% 0.50% 0.50%	1/10W 1/10W 1/10W 1/10W 1/10W	C105 C106 C107 C108 C109	1-124-477-11 1-164-004-11 1-164-004-11 1-164-232-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	47MF 0.1MF 0.1MF 0.01F	2 1 1	10% 20% 10% 10%	25V 16V 25V 25V 50V
R1379 R1380 R1381 R1382 R1383	1-216-049-00 1-216-099-00 1-216-073-00 1-216-101-00 1-216-041-00	METAL GLAZE 1K METAL GLAZE 120K METAL GLAZE 10K METAL GLAZE 150K METAL GLAZE 470	5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	C112 C113 C114 C115 C116	1-164-101-00 1-124-477-11 1-164-232-11 1-164-346-11	CERAMIC CHIP	22PF 47MF 0.01F 1MF	2 1	10% 5% 20% 10%	25V 50V 16V 50V 16V
R1384 R1385 R1386 R1387 R1388	1-216-041-00 1-216-025-00 1-216-025-00 1-216-025-00 1-216-043-00	METAL GLAZE 470 METAL GLAZE 100 METAL GLAZE 100 METAL GLAZE 100 METAL GLAZE 560	5% 5% 5% 5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	C118 C119 C121 C122 C123	1-163-369-11 1-163-235-11 1-164-239-11 1-163-235-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	47PFF 22PF 33PF 22PF		10% 5% 5% 5%	25V 25V 50V 50V 50V
R1389 R1390 R1391 R1392 R1393	1-216-025-00 1-216-077-00 1-216-065-00 1-216-073-00 1-216-057-00	METAL GLAZE 100 METAL GLAZE 15K METAL GLAZE 4.7K METAL GLAZE 10K METAL GLAZE 2.2K	5%	1/10W 1/10W 1/10W 1/10W 1/10W	C124 C130 C131 C133 C152	1-216-295-00 1-163-093-00 1-124-477-11	CERAMIC CHIP METAL GLAZE CERAMIC CHIP ELECT CERAMIC CHIP	0 10PF 47MF		10% 5% 5% 20%	25V 1/10W 50V 16V 16V
R1394 R1395	1-216-051-00 1-216-295-91		5% 5%	1/10W 1/10W	C153		CERAMIC CHIP				16V

(KV-X2991A/X2991D/)

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	N	REMARK	- \ -	
C154 C155 C156 C161 C162	1-164-232-11 1-124-477-11 1-164-117-00 1-164-222-11	ELECT 47MF CERAMIC CHIP 100PF CERAMIC CHIP 0.22MF	16V 10% 50V 20% 16V 5% 50V 25V	JR2 JR3 JR4 JR7	<pre></pre>	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	0 5% 0 5% 0 5% 0 5%	1/10W 1/8W 1/10W 1/10W		
C163 C164 C165 C166 C167	1-163-141-00 1-164-232-11 1-124-477-11 1-163-213-00	CERAMIC CHIP 1MF CERAMIC CHIP 0.001MF CERAMIC CHIP 0.01F ELECT 47MF CERAMIC CHIP 0.0022MF CERAMIC CHIP 1MF	16V 5% 50V 10% 50V 20% 16V 5% 50V	JR8 JR9 JR11 JR14 JR16 JR18	1-216-295-00 1-216-296-00 1-216-296-00 1-216-295-00 1-216-295-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	0 5% 0 5% 0 5% 0 5% 0 5% 0 5%	1/10W 1/8W 1/8W 1/8W 1/10W 1/10W		
C170 C171 C173	1-124-477-11 1-124-477-11 1-124-477-11 < FIL	ELECT 47MF ELECT 47MF ELECT 47MF	20% 16V 20% 16V 20% 16V	JR19 JR20 JR21 JR23 JR24	1-216-296-00 1-216-296-00 1-216-296-00 1-216-296-00 1-216-296-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	0 5% 0 5% 0 5% 0 5% 0 5%	1/8W 1/8W 1/8W 1/8W 1/8W		•
CF2 CF3 CF4 SWF1	1-527-840-00 1-567-570-00 1-579-658-11	FILTER, CERAMIC FILTER, CERAMIC FILTER, CERAMIC FILTER, SAWTOOTH WAVE		JR25 JR29 JR30 JR33 JR38	1-216-296-00 1-216-296-00 1-216-295-00 1-216-295-00 1-216-296-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	0 5% 0 5% 0 5% 0 5% 0 5%	1/8W 1/8W 1/10W 1/10W 1/8W)
CN1	1-750-173-11	NECTOR > PIN, CONNECTOR (PC BOARD) PIN, CONNECTOR (PC BOARD)	10P	JR39 JR40	1-216-296-00 1-216-296-00		0 5% 0 5%	1/8W 1/8		
CN2	< TRI	MMER > TRAP, CERAMIC	101	R101 R102 R103 R104 R106	1-216-075-00 1-216-073-00 1-216-057-00 1-216-051-00 1-216-049-00	METAL GLAZE METAL GLAZE METAL GLAZE	12K 5% 10K 5% 2.2K 5% 1.2K 5% 1K 5%	1/10W 1/10W 1/10W 1/10W 1/10W)
D161	< IC	DIODE MA152WK		R107 R108 R110 R113 R114	1-216-065-00 1-216-065-00 1-216-041-00 1-216-031-00 1-216-049-00	METAL GLAZE METAL GLAZE METAL GLAZE	4.7K 5% 4.7K 5% 470 5% 180 5% 1K 5%	1/10W 1/10W 1/10W 1/10W 1/10W		
IC1 IC2 IC3	8-759-070-76 8-759-070-71 8-759-514-54 < COI	IC TDA9820 IC BA7046 L >		R115 R116 R117 R118 R119	1-216-027-00 1-216-101-00 1-216-097-00 1-216-117-00 1-216-240-00	METAL GLAZE METAL GLAZE METAL GLAZE	120 5% 150K 5% 100K 5% 680K 5% 56K 5%	1/10W 1/10W 1/10W 1/10W 1/8W	1)
L101 L102 L103 L104 L121	1-408-421-00 1-408-419-00 1-408-419-00 1-408-408-00 1-408-413-00	INDUCTOR 100UH INDUCTOR 68UH INDUCTOR 68UH INDUCTOR 8.2UH INDUCTOR 22UH		R120 R121 R122 R123 R124	1-216-075-00 1-216-053-00 1-216-061-00 1-216-075-00 1-216-041-00	METAL GLAZE METAL GLAZE METAL GLAZE	12K 5% 1.5K 5% 3.3K 5% 12K 5% 470 5%	1/10W 1/10W 1/10W 1/10W 1/10W		
L122 L142 L151 L161	1-408-420-00 1-408-790-00 1-408-419-00 1-408-419-00	INDUCTOR 82UH INDUCTOR 0.56UH INDUCTOR 68UH INDUCTOR 68UH NSISTOR >		R125 R127 R130 R131 R132	1-216-041-00 1-216-047-00 1-216-049-00 1-216-025-00 1-216-069-00	METAL GLAZE METAL GLAZE METAL GLAZE	470 5% 820 5% 1K 5% 100 5% 6.8K 5%	1/10W 1/10W 1/10W 1/10W 1/10W		
Q101 Q102 Q121 Q122 Q161		TRANSISTOR 2SC2412K-QR TRANSISTOR 2SA1162-G TRANSISTOR 2SC2412K-QR TRANSISTOR 2SA1162-G TRANSISTOR 2SA1162-G		R133 R134 R135 R150 R151	1-216-061-00 1-216-049-00 1-216-198-00 1-216-043-00 1-216-043-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	3.3K 5% 1K 5% 1K 5% 560 5% 560 5%	1/10W 1/10W 1/8W 1/10W 1/10W		
Q170 Q171 Q172 Q173	8-729-920-74	TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR		R152 R153 R154 R155 R156	1-216-043-00 1-216-025-00 1-216-049-00 1-216-051-00 1-216-083-00	METAL GLAZE METAL GLAZE METAL GLAZE	560 5% 100 5% 1K 5% 1.2K 5% 27K 5%	1/10W 1/10W 1/10W 1/10W 1/10W)
				R157	1-216-051-00	METAL GLAZE	1.2K 5%	1/10W		

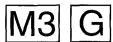
_				IF	KV-X2991 X2993E	A/X2991D/)	(KV-X2	2993B)
REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION		REMARK
R159 R160 R161 R162	1-216-107-00 1-216-049-00 1-216-755-11 1-216-073-00	METAL GLAZE 1K 5% METAL CHIP 130K 0.5	1/10W 1/10W 50% 1/10W 1/10W	C151 C152 C161	1-124-477-11 1-124-477-11 1-124-477-11	ELECT 47MF ELECT 47MF	20% 20% 20% 20%	16V 16V 16V 16V
R163 R164 R165 R166 R167	1-216-113-00 1-216-113-00 1-216-081-00 1-216-049-00 1-216-073-00	METAL GLAZE 470K 5% METAL GLAZE 22K 5%	1/10W 1/10W 1/10W 1/10W 1/10W	C162 C173 C174 C175 C177	1-163-227-11 1-163-227-11 1-164-004-11	CERAMIC CHIP 0.0047MF CERAMIC CHIP 10PF CERAMIC CHIP 10PF CERAMIC CHIP 0.1MF	10% 0.5PF 0.5PF 10%	50V 50V 50V 25V
R168 R169 R170 R171 R172	1-216-113-00 1-216-049-00 1-216-083-00 1-216-075-00 1-216-095-00	METAL GLAZE 1K 5% METAL GLAZE 27K 5% METAL GLAZE 12K 5%	1/10W 1/10W 1/10W 1/10W 1/10W	C191 C201 C202 C203 C204	1-164-346-11 1-164-232-11 1-124-477-11 1-164-346-11	CERAMIC CHIP 1MF	10% 10% 20%	50V 16V 50V 16V 16V
R173 R174 R175 R176 R177	1-216-059-00 1-216-057-00 1-216-083-00 1-216-075-00 1-216-095-00	METAL GLAZE 2.2K 5% METAL GLAZE 27K 5%	1/10W 1/10W 1/10W 1/10W 1/10W	C205 C206 C207 C208 C302	1-163-251-11 1-164-222-11 1-163-141-00	CERAMIC CHIP 0.0022MF CERAMIC CHIP 100PF CERAMIC CHIP 0.22MF CERAMIC CHIP 0.001MF CERAMIC CHIP 0.01MF	10% 5% 5% 10%	50V 50V 25V 50V 50V
R178 R179 R180 R181	1-216-059-00 1-216-057-00 1-216-037-00 1-216-037-00	METAL GLAZE 2.7K 5% METAL GLAZE 2.2K 5% METAL GLAZE 330 5%	1/10W 1/10W 1/10W 1/10W	C502 C503 C901	1-124-477-11 1-164-232-11 1-124-477-11		20% 10% 20% 10%	16V 50V 16V 50V
	· · · · · · · · · · · · · · · · · · ·	IABLE RESISTOR >			< FIL	TER >		
RV1		RES, ADJ, CARBON 4.7K		CF171 CF172 CF173	1-567-101-11 1-760-107-21	FILTER, CERAMIC FILTER, CERAMIC FILTER, CERAMIC		
Т4 Т5	1-416-017-21 1-416-018-21			CF174 SWF101 SWF103	1-579-273-11	FILTER, CERAMIC FILTER, SURFACE WAVE FILTER, SURFACE WAVE		
******	*******	***********	******		< CON	NECTOR >		
	1-467-735-11	***********	KV-X2993B)	CN1 CN2	1-750-919-11 1-750-919-11	PIN, CONNECTOR (PC BOAD	RD) 10P RD) 10P	
7		PACITOR >			< TRI	MMER >		
C101 C102 C104 C111 C112	1-164-232-11	CERAMIC CHIP 0.0047MF CERAMIC CHIP 0.01MF CERAMIC CHIP 0.0047MF CERAMIC CHIP 0.1MF CERAMIC CHIP 470PF	10% 50V 10% 50V 10% 50V 10% 25V 5% 50V	CT101 CT131		TRAP, CERAMIC TRAP, CERAMIC		
C113 C114 C115 C116 C117	1-124-925-11 1-124-916-11 1-124-916-11	ELECT 22MF	10% 16V 20% 50V 20% 50V 20% 50V 0.25PF 50V	D101 D171 D201	8-719-914-43	DIODE DAN202K DIODE DAN202K DIODE DAN202K		
C120 C121 C122 C123 C126	1-124-925-11 1-124-925-11 1-164-489-11 1-164-232-11 1-163-085-00	ELECT 2.2MF CERAMIC CHIP 0.22MF CERAMIC CHIP 0.01MF	20% 50V 20% 50V 10% 16V 10% 50V 0.25PF 50V	IC1 IC2 IC3 IC4	8-759-193-13 8-759-514-54 8-752-069-79 8-759-710-86	IC BA7046 IC CXA1875M IC NJM2233BM		
C128		CERAMIC CHIP 0.22MF	10% 16V	T404				
C131 C132 C133 C134	1-163-113-00 1-163-097-00 1-163-113-00 1-163-239-11	CERAMIC CHIP 15PF CERAMIC CHIP 68PF CERAMIC CHIP 33PF	5% 50V 5% 50V 5% 50V 5% 50V	L101 L102 L131 L132 L142	1-408-419-00 1-410-985-11 1-408-407-00 1-410-426-21 1-408-409-00	INDUCTOR CHIP 0.22UH INDUCTOR 6.8UH INDUCTOR 39UH		
C135 C141 C143 C145	1-124-477-11 1-163-249-11 1-163-251-11 1-124-477-11	CERAMIC CHIP 82PF CERAMIC CHIP 100PF	20% 16V 5% 50V 5% 50V 20% 16V	L171 L201 L501 L901	1-408-609-41 1-408-419-00 1-408-411-00 1-408-411-00	INDUCTOR 68UH INDUCTOR 15UH		

IF (KV-X2993B)

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTIO	N	REMARK	
Q102 Q104	8-729-104-80 8-729-901-01 8-729-901-01	TRANSISTOR DTC144EK		JR138 JR140 JR141 JR142 JR143	1-216-296-91 1-216-296-91 1-216-296-91 1-216-295-91 1-216-296-91	METAL GLAZE METAL GLAZE METAL GLAZE	0 5% 0 5% 0 5% 0 5% 0 5%	1/8W 1/8W 1/8W 1/10W 1/8W	
Q131 Q132 0141	8-729-216-22 8-729-920-74 8-729-920-74 8-729-920-74 8-729-920-74	TRANSISTOR 2SC2412K-QR		JR145 JR146 JR150 JR152 JR154	1-216-296-91 1-216-295-91 1-216-295-91 1-216-296-91 1-216-296-91	METAL GLAZE METAL GLAZE METAL GLAZE	0 5% 0 5% 0 5% 0 5% 0 5%	1/8W 1/10W 1/10W 1/8W 1/8W	
Q151 Q152 Q153 Q154	8-729-920-74 8-729-920-74 8-729-920-74 8-729-901-01	TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR TRANSISTOR DTC144EK		JR160 JR161 JR162 JR166	1-216-296-91 1-216-295-91 1-216-295-91 1-216-295-91	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	0 5% 0 5% 0 5% 0 5%	1/8W 1/10W 1/10W 1/10W	
Q162 Q171 Q174 Q175	8-729-920-74 8-729-216-22 8-729-901-01 8-729-901-01	TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR TRANSISTOR 2SA1162-G TRANSISTOR DTC144EK TRANSISTOR DTC144EK TRANSISTOR DTC144EK		R100 R102 R103 R104 R105	1-216-296-91 1-216-025-00 1-216-059-00 1-216-001-00 1-216-176-11 1-216-017-00	METAL GLAZE METAL GLAZE METAL GLAZE	0 5% 100 5% 2.7K 5% 10 5% 120 5% 47 5%	1/8W 1/10W 1/10W 1/10W 1/8W 1/10W	>
Q181 Q191	8-729-920-74 8-729-216-22 8-729-216-22	TRANSISTOR 2SC2412K-QR TRANSISTOR 2SA1162-G		R106 R107 R109 R111 R113	1-216-057-00 1-216-057-00 1-216-057-00 1-216-295-91 1-216-031-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	2.2K 5% 2.2K 5% 2.2K 5% 0 5% 180 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
JR102 JR103 JR104	1-216-295-91 1-216-296-91 1-216-295-91 1-216-295-91 1-216-296-91	METAL GLAZE 0 5% METAL GLAZE 0 5% METAL GLAZE 0 5% METAL GLAZE 0 5%	1/10W 1/8W 1/8W 1/10W 1/8W	R114 R115 R116 R117 R118	1-216-035-00 1-216-035-00 1-216-025-00 1-216-031-00 1-216-061-00	METAL GLAZE METAL GLAZE	270 5% 270 5% 100 5% 180 5% 3.3K 5%	1/10W 1/10W 1/10W 1/10W 1/10W)
JR109 JR110 JR111	1-216-295-91 1-216-295-91 1-216-295-91 1-216-296-91 1-216-295-91	METAL GLAZE 0 5% METAL GLAZE 0 5% METAL GLAZE 0 5%	1/10W 1/10W 1/10W 1/8W 1/10W	R120 R131 R133 R134 R135	1-216-180-00 1-216-198-91 1-216-031-00 1-216-049-00 1-216-295-91	METAL GLAZE METAL GLAZE METAL GLAZE	180 5% 1K 5% 180 5% 1K 5% 0 5%	1/8W 1/8W 1/10W 1/10W 1/10W	
JR114 JR115 JR116	1-216-296-91 1-216-295-91 1-216-295-91 1-216-296-91 1-216-296-91	METAL GLAZE 0 5% METAL GLAZE 0 5% METAL GLAZE 0 5%	1/8W 1/10W 1/10W 1/8W 1/8W	R136 R137 R138 R139 R140	1-216-041-00 1-216-041-00 1-216-049-00 1-216-067-00 1-216-295-91	METAL GLAZE METAL GLAZE METAL GLAZE	470 5% 470 5% 1K 5% 5.6K 5% 0 5%	1/10W 1/10W 1/10W 1/10W 1/10W	トノ
JR119 JR120 JR121	1-216-296-91 1-216-296-91 1-216-295-91 1-216-296-91 1-216-296-91	METAL GLAZE 0 5% METAL GLAZE 0 5% METAL GLAZE 0 5%	1/8W 1/8W 1/10W 1/8W 1/8W	R142 R144 R145 R146 R147	1-216-049-00 1-216-041-00 1-216-041-00 1-216-043-00 1-216-025-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	1K 5% 470 5% 470 5% 560 5% 100 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
JR124 JR125 JR126	1-216-296-91 1-216-296-91 1-216-295-91 1-216-295-91 1-216-296-91	METAL GLAZE 0 5% METAL GLAZE 0 5% METAL GLAZE 0 5%	1/8W 1/8W 1/10W 1/10W 1/8W	R148 R149 R151 R152 R153	1-216-049-00 1-216-049-00 1-216-226-00 1-216-069-00 1-216-689-11	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	1K 5% 1K 5% 15K 5% 6.8K 5% 39K 5%	1/10W 1/10W 1/8W 1/10W 1/10W	
JR129 JR130 JR131	1-216-295-91 1-216-295-91 1-216-296-91 1-216-296-91 1-216-296-91	METAL GLAZE 0 5% METAL GLAZE 0 5% METAL GLAZE 0 5%	1/10W 1/10W 1/8W 1/8W 1/8W	R154 R155 R156 R161 R162	1-216-057-00 1-216-057-00 1-216-037-00 1-216-079-00 1-216-069-00		2.2K 5% 2.2K 5% 330 5% 18K 5% 6.8K 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
JR134 JR135 JR136	1-216-296-91 1-216-295-91 1-216-296-91 1-216-295-91 1-216-296-91	METAL GLAZE 0 5% METAL GLAZE 0 5% METAL GLAZE 0 5%	1/8W 1/10W 1/8W 1/10W 1/8W	R163 R164 R165 R166 R167	1-216-689-11 1-216-057-00 1-216-057-00 1-216-037-00 1-216-073-00	METAL GLAZE METAL GLAZE METAL GLAZE	39K 5% 2.2K 5% 2.2K 5% 330 5% 10K 5%	1/10W 1/10W 1/10W 1/10W 1/10W	

IF	(KV-X2993B)	M3
DESCRIPTION	ON	REMARK

REF.NO.	PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTION		REMARK
R168 R169 R171	1-216-212-00 1-216-067-00 1-216-045-00	METAL GLAZE 3.9K METAL GLAZE 5.6K METAL GLAZE 680 METAL GLAZE 100	5% 1/3 5% 1/3	BW 10W 10W 10W	C018 C019 C020	1-164-505-11 1-124-916-11 1-163-117-00	CERAMIC CHIP 2.2MF ELECT 22MF CERAMIC CHIP 100PF	20% 5%	16V 50V 50V
R177 R178	1-216-025-00 1-216-057-00	METAL GLAZE 2.2K	5% 1/:	10W 10W	C022 C023 C024	1-164-004-11 1-164-004-11 1-164-004-11	CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF CERAMIC CHIP 0.1MF	10% 10% 10%	25V 25V 25V
R179 R180 R181 R182	1-216-057-00 1-216-057-00 1-216-041-00 1-216-041-00	METAL GLAZE 2.2K METAL GLAZE 2.2K METAL GLAZE 470 METAL GLAZE 470	5% 1/3 5% 1/3	10W 10W 10W	C025 C026		CERAMIC CHIP 0.22MF CERAMIC CHIP 0.22MF	10.0	25V 25V
R182 R183	1-216-192-00	METAL GLAZE 560 METAL GLAZE 560	5% 1/		C032 C036 C042	1-163-117-00 1-163-005-11 1-162-638-11	CERAMIC CHIP 100PF CERAMIC CHIP 470PF CERAMIC CHIP 1MF	5% 10%	50V 50V 16V
R185 R191 R192	1-216-067-00 1-216-093-00 1-216-093-00	METAL GLAZE 5.6K METAL GLAZE 68K METAL GLAZE 68K	5% 1/3 5% 1/3 5% 1/3	10W 10W 10W	C081 C2001	1-163-113-00 1-163-235-11	CERAMIC CHIP 68PF CERAMIC CHIP 22PF	5% 5%	50V 50V
R194	1-216-065-00	METAL GLAZE 4.7K METAL GLAZE 1K METAL GLAZE 5.6K	5% 1/	10W	C2002 C2003 C2004 C2005	1-163-235-11 1-164-222-11 1-164-222-11 1-163-038-00		5%	50V 25V 25V 25V
R195 R201 R202 R203	1-216-216-00 1-216-198-91 1-216-107-00 1-216-073-00	METAL GLAZE 5.6K METAL GLAZE 1K METAL GLAZE 270K METAL GLAZE 10K	5% 1/ 5% 1/		C2008 C2010	1-164-222-11	CERAMIC CHIP 0.22MF		25V 25V
R204 R205 R206	1-216-113-00 1-218-755-11 1-216-049-00	METAL GLAZE 470K	5% 1/ 0.50% 1/	10W	C2016 C2017 C2019 C2020	1-164-222-11 1-164-222-11 1-124-916-11 1-164-222-11	CERAMIC CHIP 0.22MF CERAMIC CHIP 0.22MF ELECT 22MF CERAMIC CHIP 0.22MF	20%	25V 25V 50V 25V
R207 R208	1-216-113-00 1-216-113-00	METAL GLAZE 470K METAL GLAZE 470K	5% 1/	10W 10W 10W	C2021 C2024 C2025	1-163-113-00 1-163-117-00 1-163-117-00	CERAMIC CHIP 68PF CERAMIC CHIP 100PF CERAMIC CHIP 100PF	5% 5% 5%	50V 50V 50V
R209 R210 R211 R301	1-216-049-00 1-216-081-00 1-216-073-00 1-216-073-00	METAL GLAZE 1K METAL GLAZE 22K METAL GLAZE 10K METAL GLAZE 10K	5% 1/ 5% 1/ 5% 1/	10W 10W 10W	C2027 C2029	1-164-222-11 1-163-113-00	CERAMIC CHIP 0.22MF CERAMIC CHIP 68PF	5%	25V 50V
R302	1-216-073-00	METAL GLAZE 10K METAL GLAZE 1K		10W 10W	C2031	1-163-031-11 < FIL	CERAMIC CHIP 0.01MF		50 V
R303 R306 R308	1-216-049-00 1-216-049-00 1-216-073-00	METAL GLAZE 1K METAL GLAZE 1K METAL GLAZE 10K	5% 1/	10W 10W	CD001		VIBRATOR, CERAMIC		
R309 R310	1-216-025-00 1-216-025-00	METAL GLAZE 100 METAL GLAZE 100		10W 10W		< CON	NECTOR >		
		RIABLE RESISTOR >			CN1413 CN1432		CONNECTOR, BOARD TO BOARD PLUG, CONNECTOR 8P	RD 40P	
RV111 RV112	1-241-786-11 1-241-765-11	RES, ADJ, CARBON 2 RES, ADJ, CARBON 2	2K 2K			< DIO	DE >		
		ANSFORMER >			D001 D2001	8-719-036-58	DIODE MA3039H DIODE MA3030H		
T111	1-403-686-22	COIL	******	*****	D2007	8-719-027-81 < IC	DIODE MA3027H		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		M3 BOARD, COMPLETE			IC001	8-759-294-04	IC SDA30C163-2GEG		
	< CAI	**************************************			IC2002 IC2002 IC2003	1-750-797-11 8-759-262-58	IC TMS27PC010A15FMAE253 SOCKET, PLCC; IC002 IC SDA5273P-C22-GEG IC MB81C4256A-70PSZG		
C001 C002	1-163-117-00	CERAMIC CHIP 100PF CERAMIC CHIP 100PF	5% 5%	50V 50V	202000	< COI			
C003 C004 C007	1-164-222-11 1-163-117-00		F 5%	50V 25V 50V	L001 L2001 L2002	1-408-421-00 1-410-674-31 1-410-397-21	INDUCTOR 100UH INDUCTOR 82UH FERRITE BEAD INDUCTOR 1	.1UH	
C008 C010	1-163-117-00	CERAMIC CHIP 100PF CERAMIC CHIP 100PF	5%	50V 50V 50V		< TRA	ANSISTOR >		
C011 C012 C014	1-163-117-00 1-163-117-00 1-163-117-00		5%	50V 50V 50V	Q002 Q2002 Q2004	8-729-920-74	TRANSISTOR 2SA1162-G TRANSISTOR 2SC2412K-QR TRANSISTOR DTC124EK		
C016 C017	1-163-141-00 1-164-222-11	CERAMIC CHIP 0.001 CERAMIC CHIP 0.22M	MF 5% F	50V 25V	Q2005 Q2006	8-729-920-74			



Les composants identifies par une trame et une marque /\hat{\Lambda} sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and marked $extstyle \Delta$ are critical for safety. Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTIO	N		REMARK	REF.NO.	PART NO.	DESCRIPTIO	N		REMARK
Q2008	8-729-901-00	TRANSISTOR D	 FC124EK			R2015	1-216-295-91		0 5%	1/100	i
~	< RES	SISTOR >				R2022 R2023	1-216-049-00 1-216-295-91	METAL GLAZE	1K 5% 0 5% 4.7K 5%	1/10V 1/10V	I
JR2002	1-216-295-91	METAL GLAZE	0	5% 1/1	.0W	R2024 R2025	1-216-065-00 1-216-063-00	METAL GLAZE METAL GLAZE	4.7K 5% 3.9K 5%	1/10V 1/10V	
R001 R002	1-216-025-00 1-216-025-00	METAL GLAZE METAL GLAZE		5% 1/1 5% 1/1		R2026 R2028	1-216-065-00 1-216-033-00	METAL GLAZE METAL GLAZE	4.7K 5% 220 5%	1/10V 1/10V	
R003 R004	1-216-049-00 1-216-049-00	METAL GLAZE METAL GLAZE	1K	5% 1/1 5% 1/1	.0W	R2030 R2031	1-216-025-00 1-216-033-00	METAL GLAZE METAL GLAZE	100 5% 220 5%	1/10v 1/10v	Ĭ
R005	1-216-295-91	METAL GLAZE		5% 1/1		R2032 R2036	1-216-049-00	METAL GLAZE METAL GLAZE	1K 5% 1K 5%	1/10V 1/10V	
R007 R008 R010	1-216-073-00 1-216-049-00 1-216-049-00	METAL GLAZE METAL GLAZE METAL GLAZE	1K	5% 1/1 5% 1/1 5% 1/1	.0W	R2037	1-216-049-00	METAL GLAZE	1K 5%	1/100	
R011 R012	1-216-049-00 1-216-049-00 1-216-049-00	METAL GLAZE METAL GLAZE	1K	5% 1/1 5% 1/1	.OW		< CRY	STAL >			
R013	1-216-049-00	METAL GLAZE		5% 1/1		X2001		VIBRATOR, CR			
R014 R016	1-216-049-00 1-216-045-00	METAL GLAZE METAL GLAZE	680	5% 1/1 5% 1/1	. OW	******	******			******	*****
R017 R018	1-216-049-00 1-216-041-00	METAL GLAZE METAL GLAZE		5% 1/1 5% 1/1			*A-1636-007-A	######################################			
R019 R020	1-216-049-00 1-216-049-00	METAL GLAZE METAL GLAZE		5% 1/1 5% 1/1			< CAP	ACITOR >			
R021 R022	1-216-065-00 1-216-065-00	METAL GLAZE METAL GLAZE		5% 1/1 5% 1/1		C601 C603	1-136-165-00 1-164-644-11	CERAMIC	0.1MF 330PF	5% 10%	50V 500V
R023	1-216-025-00	METAL GLAZE		5% 1/1		C604 C605	1-164-644-11 1-136-481-11	FILM	330PF 0.0022MF	10% 2%	500V 50V
R024 R025	1-216-049-00 1-216-049-00	METAL GLAZE METAL GLAZE	1K	5% 1/1 5% 1/1	.OW	C607	1-124-927-11 1-126-337-11		4.7MF 22MF	20% 20%	50V 50V
R026 R032 R033	1-216-049-00 1-216-049-00 1-216-049-00	METAL GLAZE METAL GLAZE METAL GLAZE	1K	5% 1/1 5% 1/1 5% 1/1	.OW	C609 C610		ELECT (SOLID)	22MF 1MF	20% 20% 10%	20V 400V
R034	1-216-057-00	METAL GLAZE		5% 1/1		C611 C612	1-130-777-00 1-124-903-11	FILM	0.1MF 1MF	5% 20%	63V 50V
R035 R038	1-216-057-00 1-216-073-00	METAL GLAZE METAL GLAZE	2.2K	5% 1/1 5% 1/1	OW	C613	1-124-907-11		10MF	20%	50V
R049 R050	1-216-049-00 1-216-073-00	METAL GLAZE METAL GLAZE		5% 1/1 5% 1/1		C615 C616	1-126-337-11 1-164-493-11	CERAMIC CHIP		20% 10%	50V 50V
R051 R052	1-216-295-91 1-216-065-00	METAL GLAZE		5% 1/1 5% 1/1		C617 C641	1-164-493-11 1-106-367-00	CERAMIC CHIP MYLAR	0.04/MF 0.01MF	10% 10%	50V 400V
R054 R056	1-216-295-91 1-216-067-00	METAL GLAZE	0	5% 1/1 5% 1/1	.OW	C650 C651	1-124-618-11 1-124-618-11		2200MF 2200MF	20% 20%	35V 35V
R057	1-216-025-00			5% 1/1		C654 C655	1-128-601-11 1-107-880-11	ELECT ELECT	4700MF 4700MF	20% 20%	25V 10V
R060 R067	1-216-057-00 1-216-043-00	METAL GLAZE	560	5% 1/1 5% 1/1	.0W	C656	1-164-644-11	CERAMIC	330PF	10%	500V
R068 R069	1-216-043-00 1-216-037-00	METAL GLAZE METAL GLAZE	330	5% 1/1 5% 1/1	_OW	C657 C658	1-107-995-11 1-124-917-11	ELECT	100MF 33MF	0 20%	160V 50V
R081	1-216-049-00	METAL GLAZE METAL GLAZE		5% 1/1 5% 1/1		C659 C661 4 C662 4	1-164-004-11 1-136-527-12 1-136-415-51	CERAMIC CHIP	0.1MF 0.47MF 0.33MF	10% 20% 20%	25V 300V 300V
R082 R083 R084	1-216-049-00 1-216-049-00 1-216-049-00	METAL GLAZE METAL GLAZE METAL GLAZE	1K	5% 1/1 5% 1/1 5% 1/1	.0W	C663	1-106-343-00		0.001MF	10%	100V
R2001 R2003	1-216-065-00 1-216-051-00	METAL GLAZE	4.7K	5% 1/1 5% 1/1	.0W	C664 C666	1-102-002-00 1-124-479-11	CERAMIC	680PF 330MF	10% 20%	500V 25V
R2004	1-216-023-00	METAL GLAZE	82	5% 1/1	.0W	C667 C668	1-126-337-11 1-124-122-11	ELECT	22MF 100MF	20% 20%	50V 50V
R2005 R2007	1-216-041-00 1-216-073-00		10K	5% 1/1 5% 1/1	.OW	C670	1-137-218-11		0.012MF	5%	800V
R2008 R2009	1-216-025-00 1-216-057-00		100 2.2K	5% 1/1 5% 1/1			1-137-218-11 1-162-599-12 1-162-599-12	CERAMIC	0.012MF 0.0047MF 0.0047MF	5%	800V 250V 250V
R2010 R2011	1-216-025-00 1-216-057-00	METAL GLAZE METAL GLAZE	100 2.2K	5% 1/1 5% 1/1		C674	1-102-599-12		330MF	20%	400V
R2012 R2013	1-216-017-00 1-216-017-00		47	5% 1/1 5% 1/1	.WO.	C675 C676	1-124-910-11 1-162-599-12	CERAMIC	47MF 0.0047MF	20%	50V 250V
R2014	1-216-017-00			5% 1/1			. 1-161-742-00 1-161-742-00		0.0022MF 0.0022MF	20% 20%	400V 400V

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The components identified by shading and marked \hat{L} are critical for safety. Replace only with the part number specified.



REF.NO.	PART NO.	DESCRIPT	DESCRIPTION REMARK		REF.NO.	PART NO.	DESCRIPTION	ESCRIPTION			REMARK		
C681	1-126-337-11	ELECT	22MF	20%	50V	L651	1-412-525-21	INDUCTOR	10UH				
C682	1-124-120-11	ELECT	220MF	20%	25V		< TRA	NSFORMER >					
	< CON	NECTOR >				LF661 /t	1-424-436-11	TRANSFORMER,	LINE F.	LTER			
CN0005 /1	1-508-765-00 1-695-915-11	PIN, CONNEC	TOR (5MM PI	TCH) 3P			< IC :	LINK >					
CN0007 /* CN0905	1-508-786-00 *1-568-882-51	PIN, CONNEC	TOR (5MM PI	TCH) 2P		PS602 /	1-532-686-21 1-532-686-21	LINK, IC ICP	-N50 2.7	'A			
CN0931 A	*1-691-291-11	PIN, CONNEC	TOR (PC BOA	RD) 5P		PS603 /k	1-532-686-21	LINK, IC ICP	-N50 2.	A			
CN0947	*1-508-768-00	PIN, CONNEC	CTOR (5MM PI	TCH) 6P				NSISTOR >					
	< DIO					Q601 Q602	8-729-216-22 8-729-025-19	TRANSISTOR I	RFI740G		0.500		
D602 D603	8-719-979-58 8-719-110-49	DIODE RD18E	SB2			Q603	4-382-854-11 8-729-025-19	TRANSISTOR I	RFI740G				
D604 D605	8-719-110-49 8-719-901-33	DIODE 1SS13	33			0004	4-382-854-11 8-729-920-74	SCREW (M3X10			; V003		
D606	8-719-110-49					Q604 Q605 Q606	8-729-216-22 8-729-920-74	TRANSISTOR 2	SA1162-0	} .			
D607 D608 D610	8-719-979-58 8-719-110-49 8-719-983-38	DIODE RD18E	SB2			Q607 Q608	8-729-920-74 8-729-920-74		SC2412K-	-QR			
D611 D612	8-719-979-58 8-719-914-43	DIODE EGP10)D			Q610	8-729-216-22						
D613	8-719-914-43					Q652 Q653	8-729-920-74 8-729-216-22						
D614 D615	8-719-510-48 8-719-914-43	DIODE DAN20)R)2K			Q661	8-729-920-74		SC2412K	-QR			
D616 D651	8-719-510-48 8-719-047-31	DIODE D1N20 DIODE RBA-4)R 102L					ISTOR >			4.10		
D653	8-719-312-47				_	JR651 JR652	1-216-296-91 1-216-296-91	METAL GLAZE METAL GLAZE	0	5% 5%	1/8W 1/8W		
D655	4-382-854-11 8-719-047-31	DIODE RBA-4	102L	+) ; D65	3	R604	1-216-660-11		2.4K 39K	0.50% 5%	1/10W 1/8W		
D657 D658	8-719-914-43 8-719-510-48					R605 R606 R607	1-216-236-11 1-216-669-11 1-216-073-00	METAL CHIP			1/10W 1/10W		
D661	8-719-901-33 8-719-914-43	DIODE 18813	33			R608	1-249-393-11	CARBON	10	5%	1/4W		
D662 D663 D664	8-719-510-53 8-719-109-89	DIODE D4SB6	50L			R609 R610	1-249-397-11 1-215-880-00		22 10	5% 5%	1/4W 2W		
D670	8-719-979-58					R611 R612	1-249-393-11 1-249-397-11	CARBON	10 22	5% 5%	1/4W 1/4W	F	
	< FER	RITE BEAD >				R613	1-211-968-11	WIREWOUND	0.56	10%	5W	F	
FB603 FB604	1-410-397-21 1-410-397-21	FERRITE BEA	AD INDUCTOR	1.1UH		R614 R616	1-215-880-00 1-216-222-00	METAL GLAZE	10 10K	5% 5%	2W 1/8W	F	
FB605 FB654	1-410-397-21 1-410-397-21	FERRITE BEA	AD INDUCTOR	1.1UH		R617 R618	1-216-053-00 1-216-222-00	METAL GLAZE	1.5K 10K	5%	1/10W 1/8W		
FB655	1-410-397-21		AD INDUCTOR	1.1UH		R619	1-216-254-00	METAL GLAZE	220K		1/8W 1/8W		
	< IC					R620 R621 R625	1-216-198-91 1-216-097-00 1-216-049-00	METAL GLAZE METAL GLAZE	1K 100K 1K	5% 5% 5%	1/10W 1/10W		
IC601 IC602	8-759-266-38 8-759-185-47 8-749-923-44	IC IR2112				R626 R628	1-216-049-00 1-216-186-00 1-249-441-11	METAL GLAZE	330 100K	5%	1/8W 1/4W		
IC603 1 IC604 IC605	8-759-908-15 8-759-982-36	IC TL431CL	2			R632	1-249-441-11		100K		1/4W		
IC610	1-810-051-11					R633 R634	1-216-049-00 1-216-186-00	METAL GLAZE METAL GLAZE	1K 330	5% 5%	1/10W 1/8W		
	< COI		•			R635 R636	1-215-442-00 1-215-431-00	METAL METAL	7.5K 2.7K		1/4W 1/4W		
) L601	1-412-525-21	INDUCTOR	10UH			R637	1-247-807-31		100	5%	1/4W		
L602 L603	1-412-525-21 1-412-525-21	INDUCTOR INDUCTOR	10UH 10UH			R638 R639	1-216-073-00 1-216-089-91	METAL GLAZE	10K 47K	5% 5%	1/10W 1/10W	ū	
L604 L650	1-412-525-21 1-412-525-21		10UH 10UH			R640 R641	1-249-417-11 1-247-903-00		1K 1M	5% 5%	1/4W 1/4W	r	



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Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION	<u>\</u>		! !	REMARK	REF.NO.	PART NO.	DESCRIPTION	<u>N</u>		REMARK	■./~\ - /
R642 R643 R651	1-247-903-00 1-216-691-11 1-215-880-00		47K 0 10 5	.50% %	1/4W 1/10W 2W 1/4W	F	C718 C719 C720	1-102-129-00 1-124-903-11 1-126-326-51	ELECT	0.01MF 1MF 10MF	10% 20% 20%	50V 50V 250V	
R658 R660	1-249-415-11 1-207-905-00	WIREWOUND			2W	F		< CON	NECTOR >				
R661 R662 R663	1-535-143-11 1-249-427-11 1-249-424-11 1-205-998-11	CARBON CARBON	6.8K 5 3.9K 5	%	1/4W 1/4W 10W	P	CN0004 CN0403 CN0421	1-695-915-11 *1-564-513-11 *1-508-767-00	PLUG, CONNEC	TOR 10P			*
R665 /	1-218-265-11	METAL	8.2M 5		īw			< DIO	DE >				
R670 1	1-249-430-11 1-249-436-11 1-205-998-11 1-205-998-11 1-214-937-00	CARBON WIREWOUND WIREWOUND	39K 5 1 5 1 5	% %	1/4W 1/4W 10W 10W 1/2W		D701 D702 D703 D704 D705	8-719-901-33 8-719-901-83 8-719-901-83 8-719-901-83 8-719-901-33	DIODE 1SS83 DIODE 1SS83 DIODE 1SS83				
R673 R678 R679 R680 R681	1-215-429-00 1-249-417-11 1-216-198-91 1-249-417-11 1-216-061-00	CARBON METAL GLAZE	1K 5	% % %	1/4W 1/4W 1/8W 1/4W 1/10W	F	D706 D707 D710 D712 D714	8-719-908-03 8-719-901-33 8-719-908-03 8-719-921-69 8-719-921-88	DIODE 1SS133 DIODE GP08D DIODE MTZJ-9	.1			· \
R682 R683 R684 R685 R686	1-216-089-91 1-216-049-00 1-216-073-00 1-249-417-11 1-216-352-11	METAL GLAZE METAL GLAZE	1K 5 10K 5 1K 5	% % %	1/10W 1/10W 1/10W 1/4W 1W		D715 D716 D717 D720 D721	8-719-911-19 8-719-911-19 8-719-911-19 8-719-982-96 8-719-982-96	DIODE 1SS119 DIODE 1SS119 DIODE MTZJ-2	.2A			
R687	1-216-055-00 1-216-105-00	METAL GLAZE	1.8K 5 220K 5		1/10W 1/10W			< IC	>				`
R688 R689 R690 R691	1-216-105-00 1-216-049-00 1-216-053-00 1-249-419-11	METAL GLAZE METAL GLAZE		% %	1/10W 1/10W 1/10W 1/4W		IC703 IC704	8-759-073-90 4-382-854-11 8-759-073-90 4-382-854-11	SCREW (M3X10 IC TDA6111Q				,
	< REL	AY >					IC705	8-759-073-90 4-382-854-11	IC TDA6111Q				
RY661 .*	1-755-018-11	RELAY							SOCKET >	,, 1, 0	M (+) / 10		
	< TRA	NSFORMER >					.T701 &	1-526-990-21					
T650 d.	1-426-863-11	TRANSFORMER,	CONVERTE	R (PI	T)			< COI	ELECTRICAL STREET, SECTION OF THE SE				Printed States of the States o
	< THE	RMISTOR >				-	L701	1-410-671-31		47UH			
BILLIAM TOTAL AND	1-809-827-11	44444444444444444444444444444444444444					L704 L705	1-408-405-00 1-408-405-00	INDUCTOR	4.70 4.70	ΙΉ		
******	******			****	*****	*****	L706	1-408-405-00		4.70	TH.		
	*A-1638-054-A	C BOARD, COM				·	0701	< TRA 8-729-255-12	NSISTOR >	000551	٥		
		ACITOR >					Q701 Q702 Q703	8-729-255-12 8-729-255-12	TRANSISTOR 2	SC2551- SC2551-	·0 ·0		
C701 C702	1-124-634-11 1-124-634-11	ELECT	1MF 1MF	2	10% 10%	250V 250V	Q704 Q705	8-729-216-22 8-729-901-06					
C703 C704 C705	1-124-634-11 1-102-129-00 1-126-103-11	CERAMIC	1MF 0.01MF 470MF	1	10% .0% 10%	250V 50V 16V	Q706	8-729-920-74	TRANSISTOR 2	SC2412K	K-QR		
C706	1-126-103-11		470MF		10%	16V		< RES	ISTOR >				
C708 C709 C710 C711	1-126-103-11 1-102-157-00 1-102-157-00 1-102-157-00	ELECT CERAMIC CERAMIC	470MF 560PF 560PF 560PF	2 1 1	0% .0% .0% .0%	16V 500V 500V 500V	R701 R702 R703 R704 R705	1-216-055-00 1-216-065-00 1-249-435-11 1-216-073-00 1-216-075-00	METAL GLAZE CARBON METAL GLAZE	1.8K 4.7K 33K 10K 12K		W W W	
C712 C713 C714 C716 C717	1-124-916-11 1-162-116-00 1-162-115-00 1-162-116-00 1-102-129-00	CERAMIC CERAMIC CERAMIC	22MF 680PF 330PF 680PF 0.01MF	1 1 1	10% .0% .0% .0%	50V 2KV 2KV 2KV 50V	R706 R707 R708 R709	1-249-433-11 1-249-433-11 1-249-436-11	CARBON CARBON CARBON	22K 22K 22K 22K 820	5% 1/4° 5% 1/4° 5% 1/4° 5% 1/4°	N N	

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)	REF.NO.	PART NO.	DESCRIPŢIO	N		·	REMARK	REF.NO.	PART NO.	DESCRIPTION	N			REMARK
	R710 R711 R712	1-216-047-00 1-216-047-00 1-216-057-00	METAL GLAZE	820 820 2.2K	5% 5% 5%	1/10W 1/10W 1/10W		C2566 C2567 C2568 C2569	1-163-009-11 1-163-009-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	0.001MF 0.001MF	· :	10% 10% 10%	50V 50V 50V 50V
	R713 R714 R715	1-249-417-11 1-216-049-00 1-216-049-00	CARBON METAL GLAZE METAL GLAZE	1K 1K 1K	5% 5% 5%	1/4W 1/10W 1/10W		C2570 C2573 C2583	1-164-232-11 1-124-477-11		0.01MF 47MF		10% 20%	25V 50V 25V
	R716 R717 R718 R719	1-216-049-00 1-249-417-11 1-249-417-11 1-249-417-11	CARBON CARBON CARBON	1K 1K 1K 1K	5% 5% 5% 5%	1/10W 1/4W 1/4W 1/4W		C2590 C2591 C2592	1-163-989-11 1-164-004-11	CERAMIC CHIP	0.033MF 0.1MF	:	10% 10%	25V 25V 25V
	R720 R721	1-215-926-00 1-215-926-00		33K 33K	5% 5%	3W 3W	F F	C2599		CERAMIC CHIP NECTOR >	0.1MF	:	10%	25V
1	R722 R723 R724 R725	1-215-926-00 1-249-408-11 1-249-408-11 1-249-408-11	CARBON CARBON	33K 180 180 180	5% 5% 5% 5%	3W 1/4W 1/4W 1/4W	F	CN2044 CN2050	*1-568-881-51	·		BOARD	10P	
./	R726	1-202-565-00	SOLID	470	20%	1/2W			< DIO					
	R727 R728 R729 R730	1-202-565-00 1-202-565-00 1-249-424-11 1-249-424-11	SOLID CARBON	470 470 3.9K 3.9K		1/2W 1/2W 1/4W 1/4W		D2551 D2554 D2555	8-719-302-43 8-719-302-43	DIODE EL1Z				
	R731	1-249-424-11	CARBON	3.9K	5%	1/4W			< IC	>				
1	R732 R733 R734 R735	1-202-549-00 1-216-081-00 1-202-549-00 1-216-047-00	METAL GLAZE SOLID	100 22K 100 820	20% 5% 20% 5%	1/2W 1/10W 1/2W 1/10W		IC2561 IC2562 IC2563 IC2581	8-752-347-92 8-759-998-98 8-759-708-05 8-759-998-98	IC LM358D IC NJM78L05A				
	R741	1-202-884-11	SOLID	820K	20%	1/2W			< COI	L >				
	R743 R744 R750 R751	1-202-884-11 1-202-842-11 1-216-073-00 1-216-091-00	SOLID	820K 220K 10K 56K		1/2W 1/2W 1/10W 1/10W		L2561 L2562	1-408-409-00 1-408-409-00	INDUCTOR	10UH 10UH			
	R752	1-249-417-11	CARRON	1K	5%	1/4W	ਜ		< TRA	NSISTOR >	<i>"</i> .			
	R753	1-215-911-11		100	5%		F	Q2565 Q2566 Q2590	8-729-920-74	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	C2412K-	·QR		
	RV701		RES, ADJ, MET						< RES	ISTOR >				
)	RV704	1-241-656-11	RES, ADJ, MET	AL FIL	M 110M			JR2553	1-216-295-91	METAL GLAZE	0	5%	1/10W	1
	******	*********	******	*****	*****	*****	*****	JR2554	1-216-295-91	METAL GLAZE	0	5%	1/10W	Ī
			D6 BOARD, COM					R2540 R2541 R2542	1-216-085-00 1-216-049-00 1-216-037-00	METAL GLAZE METAL GLAZE	1K 330	5% 5% 5%	1/10W 1/10W 1/10W	! !
		< CAP	ACITOR >					R2543 R2544	1-216-025-00 1-216-085-00	METAL GLAZE METAL GLAZE		5% 5%	1/10W 1/10W	
	C2541 C2542 C2543 C2544 C2545	1-163-037-11 1-164-161-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	0.022M 0.0022 0.0022	F MF MF	10% 10% 10% 10%	50V 25V 50V 50V 25V	R2547 R2548 R2549 R2550 R2551	1-216-657-11 1-216-295-91 1-216-079-00 1-216-063-00 1-216-049-00	METAL GLAZE METAL GLAZE	3.9K	5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	! ! !
	C2546 C2547 C2548 C2549	1-163-020-00 1-163-141-00 1-163-989-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	0.0082 0.001M 0.033M	MF F F	10% 10% 5% 10%	25V 50V 50V 25V	R2552 R2553 R2554	1-216-097-00 1-216-085-00 1-216-049-00	METAL GLAZE METAL GLAZE METAL GLAZE	100K 33K 1K	5% 5% 5%	1/10W 1/10W 1/10W	! !
ς.	C2550		CERAMIC CHIP			5%	50V	R2555 R2561	1-216-025-00 1-216-295-91		100 0	5% 5%	1/10W 1/10W	
)	C2551 C2554 C2560 C2563 C2564	1-163-011-11 1-164-161-11 1-163-031-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	0.0015 0.0022 0.01MF	MF MF	5% 10% 10%	50V 50V 50V 50V 50V	R2564 R2565 R2566 R2567 R2568	1-216-091-00 1-216-065-00 1-216-073-00 1-216-085-00 1-216-109-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	4.7K 10K	5% 5%	1/10W 1/10W 1/10W 1/10W 1/10W	! !
	C2565	1-163-031-11	CERAMIC CHIP	0.01MF			50V		00				_, _v	

D6	D7	D

REF.NO.	PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTIO	<u>N</u>		REMARK
R2575 R2576 R2581 R2582 R2583	1-216-075-00 1-216-049-00 1-216-659-11 1-216-665-11 1-216-659-11		5% 1/10 5% 1/10 0.50% 1/10 0.50% 1/10 0.50% 1/10	DM DM DM	R2701 R2702 R2703 R2704 R2705	1-216-081-00 1-216-081-00 1-216-081-00 1-216-081-00 1-216-073-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	22K 5% 22K 5% 22K 5% 22K 5% 22K 5%	1/10V 1/10V 1/10V 1/10V 1/10V	₹ 7 ₹
R2584 R2585 R2586 R2587 R2589	1-216-675-11 1-216-675-11 1-216-667-11 1-208-812-11 1-216-659-11	METAL CHIP 10K METAL CHIP 4.71	0.50% 1/10 0.50% 1/10 0.50% 1/10 0.50% 1/10 0.50% 1/10)W)W	R2706 R2707 R2708	1-216-073-00 1-216-295-91 1-216-073-00	METAL GLAZE	10K 5% 0 5% 10K 5%	1/10V 1/10V 1/10V	ī ī
R2591 R2592 R2593 R2594 R2595	1-216-089-91 1-216-089-91 1-216-081-00 1-216-065-00 1-216-097-00			DW DW			**************************************	****		
R2596 R2597 R2599 R2600 R2601	1-216-103-91 1-216-073-00 1-216-049-00 1-216-089-91 1-216-073-00	METAL GLAZE 10K METAL GLAZE 1K	5% 1/10 5% 1/10 5% 1/10 5% 1/10 5% 1/10	DW DW DW	C801 C802 C803 C804 C807	1-124-347-00 1-136-207-11 1-102-212-00 1-163-001-11 1-162-115-00	FILM CERAMIC	100MF 0.047MF 820PF 220PF 330PF	20% 10% 10% 10% 10%	160V 250V 500V 50V 2KV
R2602	1-216-105-00	METAL GLAZE 220			C808 C809 C810 C811	1-162-116-00 1-162-116-00 1-137-102-11 1-109-948-11	CERAMIC CERAMIC FILM FILM	680PF 680PF 0.022MF 0.015MF	10% 10% 10% 3%	2KV 2KV 250V 1.8KV
	*A-1640-151-A	D7 BOARD, COMPLETI			C812	1-129-722-00	FILM	0.047MF	5%	630V
		**************************************			C813 C814 C815 C816	1-109-961-11 1-129-702-00 1-163-205-00 1-109-961-11	FILM CERAMIC CHIP FILM	0.75MF	5% 10% 10% 5%	400V 400V 50V 400V
C2701 C2702 C2703 C2706	1-124-907-11 1-124-477-11 1-124-477-11 1-163-003-11	ELECT 47MF	20% 20% 20% 10%	50V 25V 25V 50V	C819 C820 C821	1-136-189-00 1-124-927-11 1-164-232-11 1-124-910-11	ELECT CERAMIC CHIP	0.1MF 4.7MF 0.01MF 47MF	10% 20% 10% 20%	250V 50V 50V 50V
	< CON	NECTOR >			C822 C823 C824	1-124-910-11 1-137-370-11 1-162-117-00	FILM	0.01MF 100PF	5% 10%	50V 50V 500V
CN2701 CN2702	*1-564-506-11	PLUG, CONNECTOR 31			C824 C825 C826 C827	1-124-790-11 1-124-910-11 1-102-228-00	ELECT	0.47MF 47MF 470PF	20% 20% 20% 10%	100V 50V 500V
D2701	< DIC	DIODE DAP202K			C833 C834	1-130-471-00 1-162-114-00	FILM	0.001MF 0.0047MF	5%	50V 2KV
D2701 D2701		DIODE DAP202K			C835	1-123-950-00	ELECT	47MF	20%	250V
	< IC	>			C836 C837	1-102-228-00 1-102-228-00	CERAMIC CERAMIC	470PF 470PF	10% 10%	500V 500V
IC2701 IC2701 IC2702	8-759-603-37 8-759-603-37 8-759-701-59	IC M5216P			C838 C839	1-102-228-00 1-124-480-11	CERAMIC ELECT	470PF 470MF	10% 20%	500V 25V
	< TRA	ANSISTOR >			C840 C841	1-124-480-11 1-106-375-12	MYLAR	470MF 0.022MF	20% 10%	25V 250V
Q2701 Q2701	8-729-920-74 8-729-120-28	TRANSISTOR 2SC241:			C842 C843 C855	1-136-559-11 1-106-220-00 1-163-133-00	MYLAR MYLAR CERAMIC CHIP	0.0047MF 0.1MF 470PF	10% 10% 5%	400V 100V 50V
	< RES	SISTOR >			C860 C861	1-137-370-11 1-130-471-00	FILM FILM	0.01MF 0.001MF	5% 5%	50V 50V
JR501 JR502 JR503 JR504	1-216-296-91 1-216-296-91 1-216-296-91 1-216-296-91	METAL GLAZE 0 METAL GLAZE 0 METAL GLAZE 0	5% 1/87 5% 1/87 5% 1/87 5% 1/87	4 4	C862 C863 C871	1-124-907-11 1-163-077-00 1-130-777-00	ELECT CERAMIC CHIP FILM	10MF 0.1MF 0.1MF	20% 10% 5%	50V 25V 63V
JR505 JR506 JR507	1-216-296-91 1-216-296-91 1-216-296-91	METAL GLAZE 0 METAL GLAZE 0	5% 1/87 5% 1/87 5% 1/87	N N	C872 C873 C874 C890	1-163-075-00 1-162-115-00 1-164-625-11 1-164-182-11	CERAMIC CHIP CERAMIC CERAMIC CERAMIC CHIP	330PF 680PF 0.0033MF	10% 10% 10%	2KV 500V 50V
JR508 JR509 JR2751	1-216-296-91 1-216-296-91 1-216-296-91	METAL GLAZE 0	5% 1/87 5% 1/87 5% 1/87	N	C891 C1501	1-163-809-11 1-163-141-00	CERAMIC CHIP		10% 5%	25V 50V



REF.NO.	PART NO.	DESCRIPTION	.	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C1502 C1503 C1504 C1505	1-124-903-11 1-124-907-11 1-107-921-91 1-137-371-11	ELECT 10MF ELECT 100MF	20% 20% 20% 5%	50V 50V 63V 50V	D1501 D1502 D1503 D1504 D2501	8-719-982-03 8-719-908-03 8-719-110-41	DIODE DAN202K DIODE MTZJ-3.6A DIODE GP08D DIODE RD15ESB2 DIODE DAP202K	
C1506 C1507 C1508 C1510 C1511	1-164-161-11 1-106-383-00 1-137-423-11 1-136-110-00 1-124-480-11	MYLAR 0.15MF FILM 0.91MF	10% 10% 10% 5% 20%	50V 100V 100V 200V 25V	D2502 D2503 D2506 D2507 D2508	8-719-914-44	DIODE RD5,1ESB2 DIODE GP08D DIODE DAN202K DIODE DAP202K DIODE DAN202K	
C1512 C1513 C1514 C1516 C2502	1-164-232-11 1-124-480-11 1-124-006-11	CERAMIC CHIP 0.01MF CERAMIC CHIP 0.01MF ELECT 470MF ELECT 10MF CERAMIC CHIP 100PF	10% 10% 20% 20% 5%	50V 50V 25V 25V 50V	DY1	< CON	NECTOR > PLUG (MINIATURE DY) 6P	
C2503 C2504 C2505 C2506 C2507	1-163-139-00 1-124-120-11 1-163-001-11 1-164-182-11 1-124-903-11	CERAMIC CHIP 820PF ELECT 220MF CERAMIC CHIP 220PF CERAMIC CHIP 0.0033MF ELECT 1MF	5% 20% 10% 10% 20%	50V 16V 50V 50V 50V	IC801 IC1501	4-202-373-01	ΙC μΡC393C	
C2508 C2509 C2511 C2520	1-124-903-11 1-163-002-11 1-163-017-00	CERAMIC CHIP 270PF CERAMIC CHIP 0.0047MF	10% 20% 10% 10%	50V 50V 50V	IC2501	8-759-076-84 < COI		
C2521 C2522 C2523 C2528	1-124-927-11 1-124-927-11 1-124-910-11 1-164-695-11	ELECT 4.7MF	20% 20% 20% 5%	50V 50V 50V	L802 L803 L808 L809 L810	1-459-123-00 1-459-123-00 1-412-519-11 1-412-519-11 1-412-519-11	INDUCTOR 3.3UH	
	< COM	NECTOR >			L811		COIL, WITH CORE	
CN0004 CN0009 CN0502 CN0504 CN0521	*1-564-506-11 *1-564-506-11 1-564-511-11	TAB (CONTACT) PLUG, CONNECTOR 3P PLUG, CONNECTOR 3P PLUG, CONNECTOR 8P PIN, CONNECTOR (5MM PIT	исн) БР		L813 L814 L816 L818	1-459-104-00 1-422-613-11 1-408-947-00	COIL, WITH CORE COIL, AIR CORE	
CN0521 CN0523 CN0544	1-573-296-21	CONNECTOR, BOARD TO B	ARD 10P		L1503 L2501	1-412-524-11 1-408-609-41		
CN0546 CN0547		PLUG, CONNECTOR 11P PIN, CONNECTOR (5MM PIT	CH) 6P				LINK >	
<i></i>	< DIC				PS801	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
D802		DIODE ERD08M-15				< TRA	NSISTOR >	
D803	4-382-854-11 8-719-043-14 4-382-854-11	SCREW (M3X10), P, SW (4 DIODE ESAD39M-06C SCREW (M3X10), P, SW (4 DIODE ERC38-06			Q801 Q802 Q803	8-729-821-07 4-200-399-01	TRANSISTOR 2SC2688-LK TRANSISTOR 2SC3997CA SPACER, IC; Q802 SCREW (M3X10), P, SW (+); Q80 TRANSISTOR 2SC4793	2
D805 D806 D807 D808 D810	8-719-908-03 8-719-908-03 8-719-914-43 8-719-914-44 8-719-018-82	DIODE GP08D DIODE DAN202K DIODE DAP202K			Q804 Q805 Q806	4-382-854-11 8-729-378-84 8-729-119-78 8-729-903-29	SCREW (M3X10), P, SW (+); Q80 TRANSISTOR 2SD788-5 TRANSISTOR 2SC2785-HFE TRANSISTOR DTA144TK	3
D811 D812 D813 D814 D819	8-719-510-26 8-719-979-85	DIODE EL1Z DIODE D1NL20 DIODE D1NL20 DIODE EGP20G DIODE DAN202K			Q860 Q861 Q1501 Q1502 Q1503	8-729-216-22 8-729-920-74 8-729-901-01 8-729-216-22	TRANSISTOR 2SC2412K-QR TRANSISTOR DTC144EK TRANSISTOR 2SA1162-G	
D860 D861 D862 D863 D871	8-719-914-42 8-719-914-43 8-719-914-43	DIODE DAP202K DIODE DA204K DIODE DAN202K DIODE DAN202K DIODE DAP202K		·	Q1504 Q1505 Q2502	8-729-926-79	TRANSISTOR DTC144EK TRANSISTOR IRFIBC40 TRANSISTOR DTA114TK	



REF.NO.	PART NO. DESCRIPTION			REMARK	REF.NO. PART NO. DESCRIPTION			<u>\</u>	REMARK		
JR1 JR2 JR3	< RES 1-216-295-91 1-216-295-91 1-216-295-91 1-216-295-91	METAL GLAZE METAL GLAZE	0 5% 0 5% 0 5% 0 5%	1/10W 1/10W 1/10W 1/10W	R858 R860 R861 R862 R863	1-216-049-00 1-216-089-91 1-216-073-00 1-216-073-00 1-216-222-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	47K 5 10K 5 10K 5	1/10W % 1/10W % 1/10W % 1/10W % 1/8W		
JR4 JR6 JR7 JR8 JR9 JR10	1-216-295-91 1-216-295-91 1-216-295-91 1-216-295-91 1-216-295-91 1-216-295-91	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	0 5% 0 5% 0 5% 0 5% 0 5% 0 5%	1/10W 1/10W 1/10W 1/10W 1/10W	R864 R865 R866 R871 R872	1-216-081-00 1-216-208-00 1-249-389-11 1-216-093-00 1-216-113-00	METAL GLAZE METAL GLAZE CARBON METAL GLAZE METAL GLAZE	2.7K 5 4.7 5 68K 5	1/10W 1/8W 1/4W 1/10W 1/10W	F	
JR11 JR12 JR13 JR14	1-216-295-91 1-216-295-91 1-216-295-91 1-216-295-91	METAL GLAZE METAL GLAZE	0 5% 0 5% 0 5% 0 5%	1/10W 1/10W 1/10W 1/10W	R873 R890 R891 R892 R893	1-216-113-00 1-216-256-00 1-216-103-91 1-216-113-00 1-216-113-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	270K 5 180K 5 470K 5	1/10W 1/8W 1/8W 1/10W 1/10W 1/10W		
R801 R802 R803 R804 R805	1-216-296-91 1-215-914-11 1-215-914-11 1-215-914-11 1-216-485-11	METAL OXIDE	0 5% 330 5% 330 5% 330 5% 5.6K 5%	1/8W 3W F 3W F 3W F 3W F	R894 R899 R1501 R1502 R1504	1-216-121-00 1-249-377-11 1-216-663-11 1-216-663-11 1-216-049-00	METAL GLAZE CARBON METAL CHIP METAL CHIP METAL GLAZE	0.47 5 3.3K 0 3.3K 0	3% 1/10W 3% 1/4W 0.50% 1/10W 0.50% 1/10W 3% 1/10W	F	
R806 R807 R808 R809 R810	1-249-411-11 1-216-061-00 1-216-386-11 1-215-880-00 1-215-914-11	CARBON METAL GLAZE METAL OXIDE METAL OXIDE METAL OXIDE	330 5% 3.3K 5% 0.56 5% 10 5% 330 5%	1/4W 1/10W 3W F 2W F 3W F	R1505 R1506 R1508 R1510 R1511	1-216-081-00 1-216-081-00 1-216-057-00 1-216-065-00 1-216-065-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	22K 5 2.2K 5 4.7K 5	3% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W		
R812 R813 R814 R815 R816	1-216-400-11 1-216-400-11 1-216-400-11 1-216-434-11 1-249-377-11	METAL OXIDE METAL OXIDE METAL OXIDE METAL OXIDE CARBON	8.2 5% 8.2 5% 8.2 5% 1.8K 5% 0.47 5%	3W F 3W F 3W F 1W F 1/4W F	R1512 R1513 R1514 R1515 R1516	1-216-079-00 1-216-065-00 1-216-049-00 1-215-461-00 1-249-385-11	METAL GLAZE METAL GLAZE METAL GLAZE METAL CARBON	4.7K 5 1K 5 47K 1	5% 1/10W 5% 1/10W 5% 1/10W 1/4W 5% 1/4W	F	
R817 R818 R819 R820 R821	1-249-377-11 1-249-377-11 1-249-377-11 1-214-907-00 1-249-428-11	CARBON CARBON CARBON METAL CARBON	0.47 5% 0.47 5% 0.47 5% 56K 1% 8.2K 5%	1/4W F 1/4W F 1/4W F 1/2W 1/4W	R1517 R1518 R1519 R1520 R1521	1-216-376-00 1-216-392-11 1-216-475-11 1-216-061-00 1-249-424-11	METAL OXIDE METAL OXIDE METAL OXIDE METAL GLAZE CARBON	1.8 5 120 5 3.3K 5	5% 2W 5% 3W 5% 3W 5% 1/10W 5% 1/4W	F F	
R822 R826 R830 R831 R833	1-216-073-00 1-216-121-00 1-211-795-11 1-215-915-11 1-216-061-00		10K 5% 1M 5% 470 5% 470 5% 3.3K 5%	1/10W 1/10W 1/4W F 3W F 1/10W	R2501 R2502 R2503 R2504 R2505	1-216-081-00 1-216-206-00 1-216-075-00 1-216-674-11 1-216-071-00	METAL CHIP	2.2K 5	5% 1/10W 5% 1/8W 5% 1/10W 0.50% 1/10W 1/10W		
R834 R835 R837 R838 R839	1-202-842-11 1-216-230-00 1-216-059-00 1-216-067-00 1-216-214-00	METAL GLAZE METAL GLAZE METAL GLAZE	220K 20% 22K 5% 2.7K 5% 5.6K 5% 4.7K 5%	1/2W 1/8W 1/10W 1/10W 1/8W	R2506 R2507 R2508 R2509 R2510	1-216-675-11 1-216-651-11 1-216-678-11 1-216-687-11 1-216-675-11	METAL CHIP METAL CHIP METAL CHIP	1K 0 13K 0 33K 0).50% 1/10W).50% 1/10W).50% 1/10W).50% 1/10W).50% 1/10W		
R840 R841 R842 R843 R844	1-216-083-00 1-249-423-11 1-249-399-11 1-202-826-00 1-215-445-00	CARBON CARBON SOLID	27K 5% 3.3K 5% 33 5% 4.7K 10% 10K 1%	1/10W 1/4W 1/4W F 6 1/2W 1/4W	R2511 R2512 R2513 R2514 R2515	1-216-675-11 1-216-079-00 1-216-061-00 1-216-083-00 1-216-246-91	METAL GLAZE METAL GLAZE METAL GLAZE	18K 5 3.3K 5 27K 5	0.50% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W 5% 1/10W		
R845 R847 R848 R849 R850	1-216-099-00 1-249-416-11 1-215-477-00 1-216-073-00 1-249-409-11	CARBON METAL	120K 5% 820 5% 220K 1% 10K 5% 220 5%	1/10W 1/4W 1/4W 1/10W 1/4W	R2525 R2527 R2529 R2530 R2531	1-216-037-00 1-249-397-11 1-216-230-00 1-216-073-00 1-216-073-00	CARBON METAL GLAZE METAL GLAZE	22 5 22K 5 10K 5	5% 1/10W 5% 1/4W 5% 1/8W 5% 1/10W 5% 1/10W		
R851 R852 R853 R855 R857	1-216-374-00 1-216-113-00 1-216-107-00 1-216-125-00 1-216-113-00	METAL GLAZE METAL GLAZE METAL GLAZE	2.7 5% 470K 5% 270K 5% 1.5M 5% 470K 5%	2W F 1/10W 1/10W 1/10W 1/10W	R2533 RV1501 RV2501	1-241-786-11	METAL GLAZE RIABLE RESISTOR RES, ADJ, CAR RES, ADJ, CER	k > RBON 22K	5% 1/10W		

Les composants identifies par une trame et une marque \triangle sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and marked extstyle extsty



REF.NO.	PART NO.	DESCRIPTIO	<u>N</u>		REMARK	REF.NO.	PART NO.	DESCRIPTIO		REMARK		
	< TH	ERMISTER >					< IC :	LINK >				
TH801	1-216-295-91	METAL GLAZE	0 5%	1/107	Ţ	PS1851 /i	1-532-727-11 1-532-727-11	LINK, IC ICP- LINK, IC ICP-	N5 0.2 N5 0.2	5A 5A		
	< TRA	NSFORMER >				< TRANSISTOR >						
T801 T803 T804 T805 T806	1-426-939-11 *8-598-943-00	TRANSFORMER,	ASSY, FLYBAC	K		Q1840 Q1841 Q1851 Q1854	8-729-920-74 8-729-017-06 8-729-920-74 8-729-216-22	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S	C4793 C2412K SA1162-C	-QR G		
*****	*****	*****	*****	******	*****	Q1855	8-729-920-74			-QR		
	*A-1642-132-A	D2 BOARD, COI	MPLETE *****			Q1856 Q1857	8-729-017-05 8-729-017-05 4-382-854-11 8-729-017-06	TRANSISTOR 29 SCREW (M3X10)	A1837 , P, S	W (+)	; Q1857	
	< CAP	ACITOR >				Q1858	4-382-854-11	SCREW (M3X10)		W (+)	; Q1858	
C1841 C1844 C1845 C1851	1-130-481-00 1-106-367-00 1-106-220-00 1-124-910-11	MYLAR MYLAR ELECT	0.0068MF 0.01MF 0.1MF 47MF 47MF	5% 10% 10% 20% 20%	50V 400V 100V 50V 50V	Q1859 Q1860 Q1861	8-729-216-22 8-729-920-74 8-729-017-06	TRANSISTOR 25	C2412K			
C1852	1-124-910-11					JR1851	1-216-295-91		٥	5%	1/10W	
C1853 C1854 C1855 C1856 C1857	1-124-907-11 1-124-910-11 1-164-232-11 1-124-907-11 1-124-360-00	ELECT CERAMIC CHIP ELECT	10MF 47MF 0.01MF 10MF 1000MF	20% 20% 10% 20% 20%	50V 50V 50V 50V 16V	R1841 R1842 R1843	1-216-085-00 1-260-111-11 1-216-057-00	METAL GLAZE CARBON METAL GLAZE	33K 10K	5% 5% 5%	1/10W 1/10W 1/2W 1/10W	
C1858 C1859 C1860 C1861 C1862	1-163-275-11 1-163-989-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP ELECT	0.001MF 0.033MF	5% 5% 10% 10% 20%	50V 50V 25V 25V 50V	R1844 R1847 R1848 R1849 R1851	1-216-057-00 1-249-399-11 1-215-875-11 1-260-111-11 1-216-429-00	CARBON METAL OXIDE CARBON METAL OXIDE	33 10K 10K 270	5% 5% 5% 5%	1/4W 1W 1/2W 1W	F
C1863 C1868 C1869 C1892	1-129-720-00 1-162-318-11 1-106-363-00 1-163-989-11	CERAMIC	0.033MF 0.001MF 0.0068MF 0.033MF	5% 10% 10% 10%	630V 500V 400V 25V	R1852 R1853 R1854 R1855 R1856	1-216-089-91 1-216-684-91 1-216-075-00 1-216-429-00 1-216-474-11	METAL CHIP METAL GLAZE METAL OXIDE	47K 24K 12K 270 82	5% 0.50% 5% 5% 5%	1/10W 1/10W 1/10W 1W 3W	
	< CON	NECTOR >				R1861 R1862	1-216-073-00 1-216-045-00	METAL GLAZE	10K 680	5% 5%	1/10W 1/10W	•
CN1823 CN1841	*1-573-299-11 *1-568-878-51	CONNECTOR, B	OARD TO BOAR OR 3P	RD 10P		R1863 R1864	1-216-097-00 1-215-875-11	METAL GLAZE	100K 10K		1/10W	F
	< DIC	DDE >				R1865 R1866	1-216-474-11 1-216-077-00	METAL OXIDE	82 15K	5% 5%	3W 1/10W	F
D1840 D1841 D1851 D1852 D1853	8-719-110-41 8-719-110-41	DIODE EL1Z DIODE DAN202 DIODE RD15ES DIODE RD15ES DIODE DA204K	B2 B2			R1875 R1877 R1878 R1881 R1885	1-216-673-11 1-216-093-00 1-260-092-11 1-260-092-11 1-216-057-00	METAL CHIP METAL GLAZE CARBON CARBON			1/10W 1/10W 1/2W 1/2W 1/10W	
D1856 D1867 D1868 D1882 D1883	8-719-302-43 8-719-302-43 8-719-109-89		SB2			R1894 R1895 R1896 R1898 R1899	1-216-073-00 1-216-073-00 1-216-097-00 1-215-867-00 1-216-013-00 1-216-013-00	METAL GLAZE METAL OXIDE METAL GLAZE	10K 100K 470 33 33	5%	1/10W 1/10W 1W 1/10W 1/10W	
	< IC	>						IABLE RESISTO			·	
IC1851 IC1852 IC1853	8-759-145-58	IC NJM78L05A IC µPC4558C IC SN74LS221				RV1851 RV1853	1-241-765-11	RES, ADJ, CEI RES, ADJ, CAI	RMET 22			
	< CO	[L >					< TRA	NSFORMER >				
L1841 L1843 L1852	1-459-104-00	COIL, DYNAMIC COIL, WITH C	ORE	CHOKE		T1851	1-423-786-11	TRANSFORMER,	FERRIT	E (VPO	T)	



REF.NO.	PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTION	<u>l</u>	!	REMARK
	*A-1644-053-A	VM BOARD, COMPLETE			R1704 R1705	1-249-418-11 1-247-736-11		1.2K 5% 56 5%	1/4W 1/2W	F
C1701	< CAF	PACITOR > 330MF	20%	16V	R1706 R1707 R1709	1-249-414-11 1-249-411-11 1-249-412-11	CARBON	560 5% 330 5% 390 5%	1/4W 1/4W 1/4W	F
C1701 C1704 C1705 C1706	1-161-830-00 1-124-120-11 1-123-935-00	CERAMIC 0.0047MF ELECT 220MF ELECT 33MF	20% 20%	500V 16V 160V	R1710 R1711	1-249-385-11 1-249-432-11	CARBON CARBON	2.2 5% 18K 5%	1/4W 1/4W	F
C1707		CERAMIC CHIP 0.047MF	20%	50V	R1712 R1713 R1714	1-216-085-00 1-249-436-11 1-249-429-11	CARBON CARBON	33K 5% 39K 5% 10K 5%	1/10W 1/4W 1/4W 3W	
C1709 C1710 C1711 C1712	1-108-792-11 1-136-203-11 1-162-318-11 1-124-799-11	FILM 0.01MF CERAMIC 0.001MF	10% 10% 10% 20%	50V 250V 500V 160V	R1715 R1716 R1717	1-216-476-11 1-249-417-11 1-249-432-11	CARBON	180 5% 1K 5% 18K 5%	1/4W 1/4W	
C1713 C1714	1-162-318-11 1-136-203-11	CERAMIC 0.001MF FILM 0.01MF	10% 10%	500V 250V	R1718 R1719 R1720	1-249-412-11 1-249-416-11 1-216-097-00	CARBON CARBON METAL GLAZE	390 5% 820 5% 100K 5%	1/4W 1/4W 1/10W	
C1716 C1717 C1718	1-124-907-11 1-102-824-00 1-124-120-11	CERAMIC 470PF	20% 5% 20%	50V 50V 16V	R1721 R1722 R1723	1-249-414-11 1-249-385-11 1-249-429-11	CARBON	560 5% 2.2 5% 10K 5%	1/4W 1/4W 1/4W	F
C1719 C1722	1-124-907-11 1-102-980-00		20% 10%	50V 50V	R1724 R1725 R1726	1-249-429-11 1-249-436-11 1-249-413-11 1-249-410-11	CARBON CARBON	39K 5% 470 5% 270 5%	1/4W 1/4W 1/4W	
		NECTOR >			R1727	1-249-402-11	CARBON	56 5%	1/4W	
CN1819 CN1830	*1-568-878-51	PIN, CONNECTOR 5P PIN, CONNECTOR 3P			R1729 R1731 R1732	1-216-451-11 1-249-420-11 1-249-426-11	CARBON CARBON	120 5% 1.8K 5% 5.6K 5%	2W 1/4W 1/4W	F
24504	< DIO				R1735	1-249-415-11		680 5% 100 5%	1/4W 1/4W	
D1701 D1702 D1703	8-719-914-43	DIODE DAN202K DIODE DAN202K DIODE DAP202K			R1736	1-247-807-31			,	****
D1704 D1705	8-719-982-37	DIODE MTZJ-39C DIODE MTZJ-39C		-		*A-1646-079-A		PLETE		
D1706 D1707	8-719-914-44 8-719-914-44	DIODE DAP202K DIODE DAP202K				< CAP	ACITOR >			
	< COI	L >			C081		CERAMIC CHIP		5% 5%	50V 50V
L1702	1-408-410-00	INDUCTOR 12UH			C082 C083 C087	1-163-037-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	0.022MF	10% 10%	25V 25V
	< TRA	NSISTOR >				< CON	NECTOR >			
Q1701 Q1702 Q1703	8-729-216-22 8-729-017-05	TRANSISTOR BF199 TRANSISTOR 2SA1162-G TRANSISTOR 2SA1837	. 0170	12	CN1008 CN1051	*1-564-513-11 *1-568-879-11				
Q1704		SCREW (M3X10), P, SW (+ TRANSISTOR 2SC2412K-QR) ; QI/C	13		< COI	L >			
Q1705 Q1706	4-382-854-11	TRANSISTOR 2SC4793 SCREW (M3X10), P, SW (+ TRANSISTOR 2SC2412K-QR) ; Q170)5	L081 L082	1-408-409-00 1-408-409-00		10UH 10UH		
Q1708 Q1708 Q1708	8-729-142-86	TRANSISTOR 2SC2412K-QK TRANSISTOR 2SC3733 TRANSISTOR BF199				< RES	ISTOR >			
Q1709		TRANSISTOR 2SC2551-0			JR1	1-216-295-91		0 5%	1/10W	
	< RES	SISTOR >			R081 R082	1-216-073-00 1-216-065-00	METAL GLAZE	10K 5% 4.7K 5%	1/10W 1/10W	
JR1701 JR1702	1-216-295-91 1-216-295-91	METAL GLAZE 0 5%	1/10W 1/10W		R083 R084 R085	1-216-057-00 1-216-202-00 1-216-202-00	METAL GLAZE	2.2K 5% 1.5K 5% 1.5K 5%	1/10W 1/8W 1/8W	
JR1703 JR1751	1-216-296-91 1-216-296-91		1/8W 1/8W			< SOC	KET >			
R1701 R1702 R1703	1-247-807-31 1-249-413-11 1-247-807-31	CARBON 470 5%	1/4W 1/4W 1/4W		J81 J82	1-568-678-11 1-562-837-11	TERMINAL BLOC JACK	к, s зр		

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REF.NO.	PART NO.	DESCRIPTION	<u>l</u>	.	REMARK	REF.NO.	PART NO.	DESCRIPTION		REMARK
S081		TCH > SWITCH, TACTI SWITCH, TACTI				C925 C926 C928	1-124-477-11 1-164-346-11 1-124-477-11	CERAMIC CHIP 1MF	20% 20%	16V 16V 16V
S082 S083		SWITCH, TACTI				C929 C930	1-124-477-11 1-124-477-11	ELECT 47MF	20% 20%	16V 16V
*****	*******	******	******	*****	*****	C931	1-164-346-11	CERAMIC CHIP 1MF CERAMIC CHIP 1MF		16V 16V
	*A-1646-080-A	H2 BOARD, COM				C932 C2701	1-124-907-11		20%	50V
	*4-374-987-01 4-381-686-01	GUIDE, LIGHT BRACKET (B),	LIGHT GUIDE			C2702 C2703 C2706	1-124-477-11 1-124-477-11 1-163-003-11		20% 20% 10%	25V 25V 50V
	< CON	NECTOR >					< CON	NECTOR >		
CN1132	1-564-511-11	PLUG, CONNECT	OR 8P			CN1208 CN1209	*1-564-525-11 *1-695-301-21	PLUG, CONNECTOR 10P CONNECTOR, BOARD TO BOA	RD 40P	
)	< DIO	DE >				CN1210 CN1240	*1-564-522-11	PLUG, CONNECTOR 7P PLUG, CONNECTOR 4P		
D092	8-719-948-31 *4-201-076-01	DIODE LD-201V.				CN2701	*1-564-506-11	PLUG, CONNECTOR 3P		
D093 D094	8-719-948-31	DIODE LD-201V	R			CN2702		PLUG, CONNECTOR 3P		
	< IC	,					< DIO	DE >		
IC091		IC SBX1610-11				D401 D403 D405	8-719-921-69	DIODE MTZJ-9.1 DIODE MTZJ-9.1 DIODE MTZJ-9.1		
,	< RES	SISTOR >				D406 D407	8-719-921-69 8-719-921-69	DIODE MTZJ-9.1 DIODE MTZJ-9.1		
)R091	1-216-190-00		470 5%	1/8W		D903	8-719-921-69			
*****	******	**********	******	*****	******	D904 D907	8-719-921-69 8-719-921-69	DIODE MTZJ-9.1 DIODE MTZJ-9.1		
	*A-1651-067-A	J BOARD, COMP				D908 D909	8-719-921-69	DIODE MTZJ-9.1 DIODE MTZJ-9.1		
	< CAF	PACITOR >				D910 D911	8-719-921-69 8-719-921-69			
C295 C296 C401 C402	1-163-009-11 1-164-005-11 1-126-101-11	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP ELECT CERAMIC CHIP	0.001MF 0.47MF 100MF	10% 10% 20%	50V 50V 16V 16V 16V	D913 D914 D915	8-719-921-69 8-719-921-69 8-719-921-69	DIODE MTZJ-9.1 DIODE MTZJ-9.1		
C403 C410	1-104-005-11		33MF	20%	50V	D917 D924	8-719-921-69 8-719-921-69	DIODE MTZJ-9.1 DIODE MTZJ-9.1		
C421 C422 C423	1-124-910-11 1-124-910-11 1-163-031-11		47MF 47MF 0.01MF	20% 20%	50V 50V 50V	D925 D926	8-719-921-69 8-719-921-69	DIODE MTZJ-9.1 DIODE MTZJ-9.1		
C424	1-163-129-00	CERAMIC CHIP	330PF	5%	50V	D927 D928	8-719-921-69	DIODE MTZJ-9.1 DIODE MTZJ-9.1 DIODE MTZJ-9.1		
C425 C426 C427	1-163-129-00 1-124-477-11 1-164-346-11 1-164-346-11	ELECT CERAMIC CHIP	47MF 1MF	5% 20%	50V 16V 16V 16V	D930 D931 D2701	8-719-921-69	DIODE MTZJ-9.1 DIODE DAP202K		
C428 C429	1-124-119-00		330MF	20%	16V		< IC	>		•
C906 C910 C911 C912 C913	1-101-004-00 1-163-017-00 1-163-017-00 1-163-129-00 1-163-129-00	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	0.0047MF 330PF	10% 10% 5% 5%	50V 50V 50V 50V 50V	IC401 IC402 IC2701 IC2702		IC TEA2114 IC M5216P IC NJM78M09FA		
C914	1-163-129-00	CERAMIC CHIP	330PF	5%	50V			CKET >		
C915 C916 C917 C922	1-163-129-00	CERAMIC CHIP CERAMIC CHIP CERAMIC CHIP	330PF 0.0015MF	5% 10% 10% 20%	50V 50V 50V 16V	J291 J903 J905	1-695-550-11 1-695-293-11	SOCKET 21P		
C923	1-164-346-11	CERAMIC CHIP		0.00	16V	0404		ANSISTOR >		
C924	1-124-477-11	ELECT	47MF	20%	16V	Q401	8-129-920-74	TRANSISTOR 2SC2412K-QR		

R935 R936 1-216-022-00 METAL GLAZE 75 1-216-171-00 METAL GLAZE 75

PART NO.	DESCRIPTION		REMARK	REF.NO.	PART NO.	DESCRIPTION	N	REMARK	
8-729-920-74 8-729-920-74 8-729-920-74	TRANSISTOR 2SC2 TRANSISTOR 2SC2	2412K-QR 2412K-QR		R937 R938 R939	1-216-113-00 1-216-039-00 1-216-039-00	METAL GLAZE MÉTAL GLAZE METAL GLAZE	470K 5% 390 5% 390 5%	1/10W 1/10W 1/10W	
		112W-W		R940 R941	1-216-063-00 1-216-113-00	METAL GLAZE METAL GLAZE	3.9K 5% 470K 5%	1/10W 1/10W	
1-216-295-91	METAL GLAZE 0) 5%	1/10W 1/10W 1/10W	R942 R943 R944	1-216-039-00 1-216-089-91 1-216-039-00	METAL GLAZE METAL GLAZE METAL GLAZE	390 5% 47K 5% 390 5%	1/10W 1/10W 1/10W	
1-216-295-91 1-216-295-91	METAL GLAZE 0 METAL GLAZE 0) 5%) 5%	1/10W 1/10W	R945 R959 R960	1-216-089-91 1-216-674-11 1-216-674-11	METAL GLAZE METAL CHIP METAL CHIP	9.1K 0.509	6 1/10W	
1-216-295-91 1-216-296-91			1/10W 1/8W	R968 R969	1-216-055-00 1-216-055-00	METAL GLAZE METAL GLAZE	1.8K 5% 1.8K 5%	1/10W 1/10W	
1-216-190-00 1-216-190-00 1-216-296-91 1-216-296-91 1-216-158-00	METAL GLAZE 4 METAL GLAZE 0 METAL GLAZE 0	170 5%) 5%) 5%	1/8W 1/8W 1/8W 1/8W 1/8W	R970 R977 R2701 R2702 R2703	1-216-055-00 1-216-055-00 1-216-081-00 1-216-081-00 1-216-081-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	1.8K 5% 1.8K 5% 22K 5% 22K 5% 22K 5%	1/10W 1/10W 1/10W 1/10W 1/10W	ť
1-216-025-00 1-216-158-00 1-216-025-00 1-216-158-00 1-216-025-00	METAL GLAZE 2 METAL GLAZE 1 METAL GLAZE 2	22 5% 100 5% 22 5%	1/10W 1/8W 1/10W 1/8W 1/10W	R2704 R2705 R2706 R2707 R2708	1-216-081-00 1-216-073-00 1-216-073-00 1-216-295-00 1-216-073-00	METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE METAL GLAZE	22K 5% 10K 5% 10K 5% 0K 5% 10K 5%	1/10W 1/10W 1/10W 1/10W 1/10W	
1-216-025-00 1-216-025-00 1-216-022-00 1-216-022-00 1-216-022-00	METAL GLAZE 1 METAL GLAZE 7 METAL GLAZE 7	100 5% 75 5% 75 5%	1/10W 1/10W 1/10W 1/10W 1/10W	*****	*****	******	********	*******	
1-216-113-00 1-216-067-00 1-216-113-00 1-216-067-00 1-216-171-00	METAL GLAZE 5 METAL GLAZE 4 METAL GLAZE 5	5.6K 5% 170K 5% 5.6K 5%	1/10W 1/10W 1/10W 1/10W 1/8W						
1-216-093-00 1-216-015-00 1-216-025-00 1-216-025-00 1-249-393-11	METAL GLAZE 3 METAL GLAZE 1 METAL GLAZE 1	39 5% 100 5% 100 5%	1/10W 1/10W 1/10W 1/10W 1/4W F						
1-216-065-00 1-216-065-00 1-216-065-00 1-216-065-00 1-216-296-91	METAL GLAZE 4 METAL GLAZE 4 METAL GLAZE 4	1.7K 5% 1.7K 5% 1.7K 5%	1/10W 1/10W 1/10W 1/10W 1/8W						
1-216-022-00 1-216-022-00 1-216-222-00 1-216-039-00 1-216-039-00	METAL GLAZE 7 METAL GLAZE 1 METAL GLAZE 3	75 5% LOK 5% 390 5%	1/10W 1/10W 1/8W 1/10W 1/10W						
1-216-089-91 1-216-039-00 1-216-039-00 1-216-089-91 1-216-063-00	METAL GLAZE 3 METAL GLAZE 4	390 5% 390 5% 17K 5%	1/10W 1/10W 1/10W 1/10W 1/10W						
1-216-113-00 1-216-063-00 1-216-113-00 1-216-073-00 1-216-063-00	METAL GLAZE 3 METAL GLAZE 4 METAL GLAZE 1	3.9K 5% 170K 5% LOK 5%	1/10W 1/10W 1/10W 1/10W 1/10W						
	8-729-920-74 8-729	8-729-920-74 8-7216-225-00 8-872-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8-8-	8-729-920-74 TRANSISTOR 2SC2412K-QR <pre></pre>	8-729-920-74 TRANSISTOR 2SC2412K-QR 1/10W 1-216-190-09 METAL GLAZE 0 5% 1/10W 1-216-025-00 METAL GLAZE 100 5% 1/10W 1-216-013-00 METAL GLAZE 75 5% 1/10W 1-216-020-00 METAL GLAZE 75 5% 1/10W 1-216-020-00 METAL GLAZE 75 5% 1/10W 1-216-039-00 METAL GLAZE 75 5% 1/10W 1-216-	8-729-920-74 TRANSISTOR 28C2412X-OR R937 R-729-920-74 TRANSISTOR 28C2412X-OR R939 R-729-920-74 TRANSISTOR 28C2412X-OR R939 R-729-920-74 TRANSISTOR 28C2412X-OR R939 R-729-920-74 TRANSISTOR 28C2412X-OR R939 R-729-920-74 TRANSISTOR 28C2412X-OR R940 R941 R941 R942 R942 R942 R942 R942 R942 R942 R942	8-729-920-74 TRANSISTOR 25C2412X-OR 8-729-920-74 TRANSISTOR 25C2412X-OR R938 1-216-039-00 R5-729-920-74 TRANSISTOR 25C2412X-OR R941 1-216-039-00 R541 1-216-295-91 R541 1-	2-799-920-74	### 1729-920-74 TRANSISTOR SCC4122-OR	8-729-920-74 TRANSISTOR 20C412E-OR

1/10W 1/8W

5% 5%

REMARK

Les composants identifies par une trame et une marque : sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie. The components identified by shading and marked ! are critical for safety.

Replace only with the part number specified.

REF.NO.

PART NO.

DESCRIPTION PART NO. REMARK REF.NO. MISCELLANEOUS ₹ 1-406-807-11 COIL, DEMAGNETIZATION 1-452-032-00 MAGNET, DISK; 10MM 1-452-094-00 MAGNET, ROTATABLE DISK; 15MM Ø 1 1-452-509-11 NBCK ASSY, PICTURE TUBE (NA-208) 1-504-507-11 SPEAKER (5CM) 1-543-619-41 CORE, RING 1-571-433-12 SWITCH, PUSH (AC POWER) 1-590-460-11 CORD, POWER (WITH CONNECTOR) 2.5A/250V (KV-X2993B, X2993E) 1-693-185-11 TUNER (UV916H) 1 1-751-680-11 CORD, POWER (WITH NOISE FILTER) 2.5a/250V (KV-X2991A, X2991D) 8-451-444-11 DEFRECTION YOKE Y29GXC 8-598-943-00 TRANSFORMER ASSY, FLYBACK (NX-2661//UB2) V901 7 8-733-853-05 PICTURE TUBE SD-269 (M68LCT60X) ACCESSORIES AND PACKING MATERIALS *4-039-906-01 BAG, PROTECTION *4-042-126-01 CUSION (UPPER) (ASSY) *4-042-127-01 CUSION (LOWER) (ASSY) *4-042-128-01 INDIVIDUAL CARTON 4-202-828-11 MANUAL, INSTRUCTION (KV-X2991D)
(GERMAN/ENGLISH/FRENCH/DUTCH/ITALIAN) 4-202-828-41 MANUAL, INSTRUCTION (KV-X2991A) 4-202-828-51 MANUAL, INSTRUCTION (KV-X2993B) (FRENCH/GERMAN/ITALIAN) 4-202-828-71 MANUAL, INSTRUCTION (KV-X2991D) (SPANISH) 4-202-828-81 MANUAL, INSTRUCTION (KV-X2993E) (FRENCH/DUTCH/SWEDISH/DANISH/FINISH/ NORWEGIAN/PORTUGUESE) REMOTE COMMANDER 1-466-854-41 REMOTE COMMANDER (RM-860) 9-903-664-01 POCKET, COVER 1-467-272-21 COMMANDER, STANDARD TYPE (RM-831) 9-903-466-01 POCKET, COVER

DESCRIPTION

Sony Corporation
Consumer A & V Products Company
TV & Display Products Div.

English
94IP7160-1
Printed in U.K.
© 1994.9

SERVICE MANUAL

AE-2F CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.	
KV-X2991A KV-X2993B KV-X2991D	RM-831	Italian French AEP	SCC-G75C-A SCC-G72D-A	KV-X2993E	RM-831	Spanish	SCC-G78C-A	-

SUPPLEMENT - 1

SUBJECT: CHANGE OF PART NUMBERS

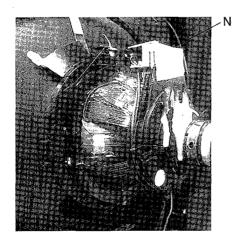
File this supplement with the service manual

INTRODUCTION:

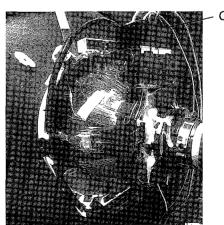
Change in CRT type from GX to GX2. Identified by different Deflection yolks. The Service Manual part no 9-974-854-01 covers the GX CRT version. The following differences would apply to models fitted with the GX2 CRT type.

HOW TO IDENTIFY:

GX CRT VERSION



No Connector



GX2 CRT VERSION

Connector





The components identified by shading and marked \triangle are critical for safety.

Replace only with the part number specified.

Les composants identifies par une trame et une marque \triangle sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

GX CRT VERSION

GX2 CRT VERSION

	*A-1642-132-A	D2 BOARD, COMPLETE			*A-16	2-132-A D2 BOARD, COMPLETE	
	< CAF	PACITOR >				< CAPACITOR >	
C1852 C1853 C1855 C1856 C1857	1-124-910-11 1-124-907-11 1-164-232-11 1-124-907-11 1-124-360-00	ELECT 10MF CERAMIC CHIP 0.01MF ELECT 10MF	20% 20% 10% 20% 20%	50V 50V 50V 50V 16V	Not fitted Not fitted Not fitted Not fitted Not fitted		
C1858 C1859 C1860 C1861 C1862	1-163-275-11 1-163-989-11	CERAMIC CHIP 0.001MF CERAMIC CHIP 0.003MF CERAMIC CHIP 0.033MF CERAMIC CHIP 10.033MF ELECT 10MF	5% 5% 10% 10% 20%	50V 50V 25V 25V 50V	Not fitted Not fitted Not fitted Not fitted Not fitted		
C1863 C1868 C1869 C1892	1-129-720-00 1-162-318-11 1-106-363-00 1-163-989-11	CERAMIC 0.001MF	5% 10% 10% 10%	630V 500V 400V 25V	Not fitted Not fitted Not fitted Not fitted		
	< DIC	DE >				< DIODE >	
D1841 D1851 D1852 D1853 D1856	8-719-110-41 8-719-110-41 8-719-914-42	DIODE DAN202K DIODE RD15ESB2 DIODE RD15ESB2 DIODE DA204K DIODE DAN202K			Not fitted Not fitted Not fitted Not fitted Not fitted		
D1867 D1882 D1883		DIODE EL1Z DIODE RD5.6ESB2 DIODE RD5.6ESB2			Not fitted Not fitted Not fitted		
	A JITTM	OHD MIDE				< JUMPER WIRE >	
	< 000	PER WIRE >				< DOMPER WIRE >	
JW1803/18	304/1805/1811/1	812/1814/1816/1817 JUMI	PER WIR	Œ	JW1803/1804/180	5/1811/1812/1814/1816/1817 Not fitt	ed
JW1803/18 IC1852 IC1853	804/1805/1811/1 < IC 8-759-145-58	812/1814/1816/1817 JUM >	PER WIR	E	JW1803/1804/180 Not fitted Not fitted		ed
IC1852	804/1805/1811/1 < IC 8-759-145-58	812/1814/1816/1817 JUM > IC μPC4558C IC SN74LS221N	PER WIR	.	Not fitted	5/1811/1812/1814/1816/1817 Not fitt	ed
IC1852	804/1805/1811/1	812/1814/1816/1817 JUM > IC μPC4558C IC SN74LS221N	PER WIR	E .	Not fitted	5/1811/1812/1814/1816/1817 Not fitt	ed
IC1852 IC1853	804/1805/1811/1	812/1814/1816/1817 JUMI > IC µPC4558C IC SN74LS221N	PER WIR	E .	Not fitted Not fitted	5/1811/1812/1814/1816/1817 Not fitt	ed
IC1852 IC1853 L1852	804/1805/1811/1	812/1814/1816/1817 JUMI IC μPC4558C IC SN74LS221N L > COIL (WITH CORE)			Not fitted Not fitted	15/1811/1812/1814/1816/1817 Not fitt	ed
IC1852 IC1853 L1852	304/1805/1811/1	812/1814/1816/1817 JUMI IC µPC4558C IC SN74LS221N L > COIL (WITH CORE) LINK >			Not fitted Not fitted Not fitted	15/1811/1812/1814/1816/1817 Not fitt	ed
IC1852 IC1853 L1852	804/1805/1811/1	812/1814/1816/1817 JUMI IC µPC4558C IC SN74LS221N L > COIL (WITH CORE) LINK > LINK >			Not fitted Not fitted Not fitted	5/1811/1812/1814/1816/1817 Not fitt	ed
IC1852 IC1853 L1852 ES1852 20 Q1840 Q1851 Q1854 Q1854 Q1855	804/1805/1811/1	812/1814/1816/1817 JUMI IC uPC4558C IC SN74LS221N L > COIL (WITH CORE) LINK > LINK TC ICP-N5 0.25A NSISTOR > TRANSISTOR 2SC2412K-QR TRANSISTOR 2SC2412K-QR	+) ; Q1	857	Not fitted	5/1811/1812/1814/1816/1817 Not fitt	ed

The components identified by shading and marked $ilde{\Lambda}$ are critical for safety. Replace only with the part number

specified.

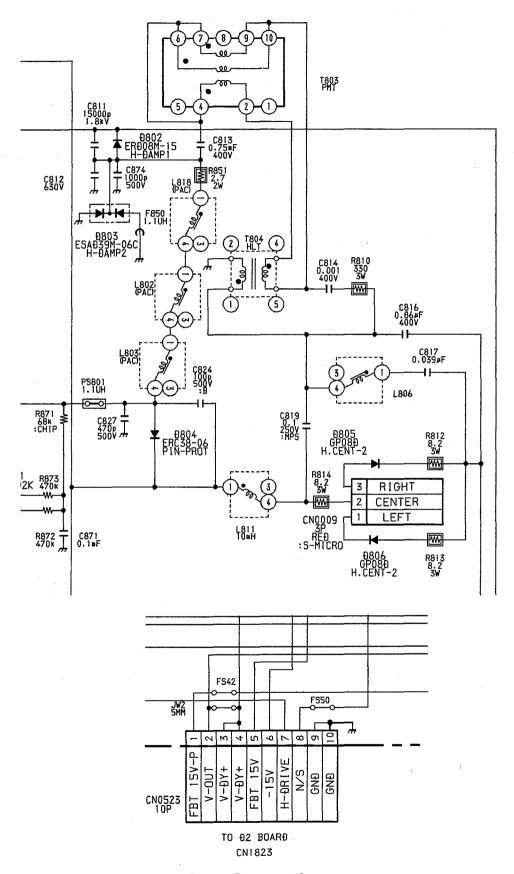
Les composants identifies par une trame et une marque 🗘 sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

GX CRT VERSION

GX2 CRT VERSION

< R	SSISTOR >						< RES	SISTOR >			
JR1851 1-216-295-9	l metal glaze 0	5%	1/10W			Not fit	ted				
R1851 1-216-429-0 R1852 1-216-089-9		5% 5%	1W	F		Not fit Not fit					
R1853 1-216-684-9	METAL CHIP 24K	0.50%	1/10W 1/10W			Not fit	ted				
R1854 1-216-075-0 R1855 1-216-429-0		5% 5%	1/10W 1W	F		Not fit Not fit					
R1856 1-216-474-1		5%	3W	F		Not fit					
R1861 1-216-073-0 R1862 1-216-045-0		5% 5%	1/10W 1/10W			Not fit Not fit					
R1863 1-216-097-0 R1864 1-215-875-1		5% 5%	1/10W 1W	F		Not fit Not fit					
R1865 1-216-474-1		5%	3W	F	, 0	Not fit	ted				
R1866 1-216-077-0 R1875 1-216-673-1		5% n 5n%	1/10W 1/10W			Not fit Not fit					
R1877 1-216-093-0) METAL GLAZE 68K	5%	1/10W			Not fit	ted				
R1878 1-260-092-1		5%	1/2W			Not fit	_				
R1881 1-260-092-1 R1885 1-216-057-0		5% 5%	1/2W 1/10W			Not fit Not fit					
R1894 1-216-073-0 R1895 1-216-097-0		5% 5%	1/10W 1/10W			Not fit Not fit					
R1896 1-215-867-0		5%	1W	F		Not fit					
R1898 1-216-013-0 R1899 1-216-013-0		5% 5%	1/10W 1/10W			Not fit Not fit					
< V	ARIABLE RESISTOR >						< VAF	RIABLE RESISTO	OR >		
RV1853 1-241-628-1	RES, ADJ, CERMET 2	.2K				Not fit	ted				
< T	RANSFORMER >						< TRA	NSFORMER >			
T1851 1-423-786-1	TRANSFORMER, FERRI	re (VPO	T)			Not fit	ted				
*******	*******	******	******	*****	***	*****	******	******	*****	*******	*****
*A-1642-131-	D BOARD COMPLETE						*A-1642-131-A	D BOARD COME			
< C	APACITOR >						< CAE	PACITOR >			
C816 1-109-961-1 C817 Not fitted	L FILM 0.75M	? !	5%	400V		C816 C817	1-107-804-11 1-137-496-11	METAL FILM FILM	0.86MF 0.39MF	5% 5%	400V 400V
< Л	MPER WIRE >						< JUM	IPER WIRE >			
JW2 Not fitted						JW2	5mm jumper wi	RE			
< C	OIL >						< COI	L >			
L806 Not fitted						L806	1-459-592-11	COIL WITH CO	RE (PMC)		
< T	RANSFORMER >						< TRA	NSFORMER >			
T804 1-426-939-1	HLT					T804	1-426-287-11	HLT			
******	**********	******	******	*****	**	*****	******	******	******	*******	******
	MISCELLANEOUS				'			MISCELLANEOU			
∴ 1-452-509-1 ∴ 8-451-444-1 V901 ∴ 8-733-853-0	DEFLECTION YOLK Y29)GXC			2.4	V901 2 V901	8-453-005-31 8-451-466-11 8-733-856-01 8-733-857-71	DEFLECTION Y PICTURE TUBE	OLK Y29GXC2 GX2 GX2 (ITC 2	B 9GX2-C1)	

D BOARD CIRCUIT CHANGES



Sony Corporation
Consumer A & V Products Company
TV & Display Products Div.

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SONY. SERVICE MANUAL

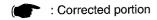
AE-2F CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-X2991A	RM-831	Italian	SCC-G76C-A	KV-X2993E	RM-831	Spanish	SCC-G78C-A
KV-X2993B	RM-831	French	SCC-G75C-A		· •		
KV-X2991D	RM-831	AEP	SCC-G72D-A				

CORRECTION - 1

SUBJECT: HOW TO ENTER INTO SERVICE MODE

File this supplement with the service manual



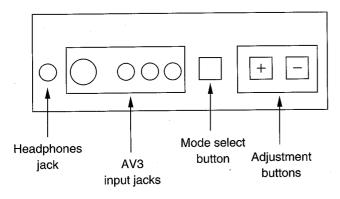
INCORRECT

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-831.

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set. Then press button of the remote commander twice.



CORRECT

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-831.

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing any two buttons on the front panel.

